

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

ENERGY EFFICIENCY COMMITTEE

QUARTERLY MEETING

CALIFORNIA CLIMATE CHANGE ADVISORY COMMITTEE

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

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SACRAMENTO, CALIFORNIA

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APPEARANCES

COMMITTEE MEMBERS PRESENT

James D. Boyd, Commissioner, Energy Commission

Ralph Cavanagh, NRDC

Cynthia Cory, California Farm Bureau Federation

Peggy Duxbury, Calpine

Ben Knight, Honda

Jason Mark, UCS

Denise Michelson, BP

Robert Parkhurst, Hewlett Packard Corporation

Wendy Pulling, PG&E

Jan Schori, SMUD

Abby Young, ICLEI

Michael Hertel, Southern California Edison

Robert Heald, UC Berkeley Center for Forestry

Josh Margolis, Cantor Fitzgerald

John Shears, CEERT

V. John White, CEERT

Nancy Skinner, The Climate Group

Christopher Walker, Swiss Re

John Bennett, Portland Cement

STAFF PRESENT

Susan Brown, Transportation Energy Division

APPEARANCES (continued)

ALSO PRESENT

Ned Helme, Center for Clean Air Policy (CCAP)

Greg Dierkers, CCAP

Stacey Davis, CCAP

Matt Ogonewski, CCAP

Gordon Smith, Ecofor

Eileen Tutt, Cal EPA

PUBLIC COMMENT

Mike McCormick, CCAP

Joe Sparano, WSPA

Russell Jones, API

Michelle Pasero, PFT

Diane Doucette, RP

Bill Wason, Climate Challenge

Doug Wickizer, CDFFP

Ken Johnson, SERF

Louis Blumberg, TNC

Rod Aoki, Alcantar & Kohl

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P R O C E E D I N G S

COMMISSIONER BOYD: Good morning and welcome to the fifth public meeting of the Energy Commission's Climate Advisory Committee. And I might note a one year anniversary. I believe it was a year ago last month we had our first meeting.

And the basic intent of the group at that time, as stated in the statute, was to advise the Commission on national and international events, and in accordance with legislation at the time to advise the Commission on possible strategies appropriate for California for the Commission to pass on to the Governor and the Legislature.

And we used the Integrated Energy Policy Report, affectionately now known as the Energy Report, as our document.

Well, the world has changed quite a bit, particularly since our April 6 meeting, primarily and principally as a result of the Governor's announcement, his Executive Order, and the establishing of climate change goals for California.

And with the Governor's Executive Order

1 certainly the importance of climate change to
2 California and Californians has moved to another,
3 higher plateau, and takes on even more significant
4 meaning for all of us here in the nation/state of
5 California, as I choose to refer to it.

6 And for those of you listening in on the
7 telephone, we hear your laughter, which is
8 invited, but they remind me that this is my tenth
9 hearing in the last 11 working days, and actually
10 there's another IEPR hearing going on as we speak
11 across town.

12 Since I got this room before, for you
13 all, before they decided to have the hearing,
14 there are just more than we can -- so we borrowed
15 a hearing room from CalEPA.

16 But in any event, as we've painfully
17 learned, we welcome our telephone guests but I
18 need to caution you, if you have a phone that you
19 can put on mute I highly recommend it, and if you
20 don't have a phone you can put on mute every
21 little noise that you make, the shuffling of
22 paper, the moving objects across your desk, the
23 side conversations with people, the snide remarks
24 about what you just heard here, gets broadcast
25 loudly through this Hearing Room.

1 And I don't anticipate -- I know we have
2 a very civilized audience out there, but a couple
3 of times in the past few months we've actually had
4 to shut off the phone connection because people's
5 etiquette has gone beyond reason, so --.

6 Anyway, I just ask everyone for their
7 courtesy, and if you have a question or a comment
8 please feel free to jump in. And of course we'll
9 have a public comment period later in the day.

10 Getting back to where we are, with the
11 advent of the Governor's Executive Order and the
12 Energy Commission is now part of an overall state
13 effort that's under the leadership of the
14 Secretary of Cal EPA, and he is charged to
15 implement the Governor's target through the
16 creation of a Climate Action Team, which the
17 Energy Commission and many other agencies are
18 members or participants.

19 The work of our advisory group now, in
20 support of the 2005 IEPR, will be channeled, of
21 course, to the Climate Advisory Team for its use
22 as we begin to finish our efforts here, in
23 particular the Climate Advisory Team and the
24 Secretary has created a special working group on
25 cap and trade.

1 And this group has made a big investment
2 in that subject and when you shortly finalize the
3 points of view of the Advisory Committee on that
4 subject it will be handed over to that working
5 group as well.

6 The Air Resources Board has the lead on
7 transportation issues, although as the Air
8 Resources Board and we learned last Friday in a
9 joint hearing, an IEPR hearing on transportation
10 fuels, you cannot separate many of these issues.
11 It's very difficult to dice apart the general
12 subject of climate change and its connection to so
13 many other activities, which is why we have a team
14 working on the issues.

15 In any event, so let's just say that the
16 work of this group may take on multiple purposes.
17 We look forward to receiving your input for the
18 Integrated Energy Policy Report, or Energy Report.

19 A year ago we said we had about a year
20 to do this, and we're right at that threshold, and
21 we do need to wrap up what it is we're doing here
22 in the not too distant future, in fact the very
23 near future, in order to get it in to the
24 Integrated Energy Policy Report.

25 Tomorrow of course the Energy Commission

1 will host one of these non-stop hearings,
2 Integrated Energy Policy Report hearings, on
3 climate change itself.

4 And joining us for that hearing will be
5 the Secretary of Cal EPA and representatives of
6 the PUC, all of whom find themselves inextricably
7 involved in the subject of climate change and
8 energy production, consumption, use, etc. of all
9 forms are deeply implicated in the subject of
10 climate change, and we find ourselves working very
11 closely on those issues.

12 There has been some expression of
13 concern, I'm told, by Susan about the allegedly
14 short time available for public comment on what it
15 is we are doing as a group.

16 Each of these meetings have been a
17 public meeting and when we incorporate
18 recommendations from this group, those that we
19 elect to incorporate into the Energy Commission's
20 draft Integrated Energy Policy Report, which will
21 be released, and then there will be a series of
22 even more public hearings on that subject,
23 starting in September, there will be ample time
24 for additional public comment.

25 With that, I just want to kind of say I

1 very much enjoyed our year together, our little
2 bit more of a year together. It's been truly
3 interesting in this state to follow the subject of
4 climate change.

5 Secretary Lloyd and I have found
6 ourselves reaching indepth understandings on the
7 subject of climate change, and I only regret, I
8 understand there is an empty chair at the press
9 conference in San Francisco, the Governor's press
10 conference, but I was sitting in another
11 auditorium in the city hosting a hearing on behalf
12 of the Resources Agency Secretary on the subject
13 of LNG, since he opted to go down and participate
14 in that event.

15 So I'm sorry I missed that event, but in
16 any event, back to our Advisory Committee and the
17 important work that you're doing and the
18 incredible new emphasis that it takes on.

19 In a moment we'll go around the table
20 and introduce ourselves, so everybody out there in
21 telephone and webcast land can know who's around
22 the table.

23 I need to make the announcement that
24 meetings of this advisory group, under the law,
25 are indeed open meetings, open to the public, and

1 that there will be opportunities for public
2 comment.

3 The meeting, as you see, is being
4 transcribed, more to just have an accurate record
5 of what was said and suggested so staff can digest
6 it and utilize it more than having an official
7 legal record.

8 We will break for lunch. The Advisory
9 Committee members will have lunch together, which
10 will be brought in, and we're going to entertain
11 during lunch with the playing of the Governor's
12 speech at the World Environment Day, for those who
13 weren't there and didn't get the opportunity.

14 And at the end of day we'll try to
15 figure out what our next steps are in finalizing
16 and closing down the efforts of the Advisory
17 Committee as it relates to the 2005 IEPR, because
18 as I said we're reaching the end of the road in
19 terms of time available to us to input to that
20 process.

21 So, with that, let me ask each of you
22 around the table to introduce yourselves, and I'm
23 not sure I introduced myself at the beginning for
24 those in radioland, but maybe they've figured it
25 out, I'm Jim Boyd, Commissioner at the California

1 Energy Commission. John?

2 MR. SHEARS: John Shears with the Center
3 for Energy Efficiency and Renewable Technologies.

4 MR. KNIGHT: Ben Knight with Honda.

5 MR. WALKER: Chris Walker with Swiss Re.

6 MS. SKINNER: Nancy Skinner with The
7 Climate Group.

8 MS. PULLING: Wendy Pulling with Pacific
9 Gas and Electric Company.

10 MR. CAVANAGH: Ralph Cavanagh, NRDC.

11 MS. YOUNG: Abby Young, the
12 International Council for Local Environmental
13 Initiatives.

14 MS. DUXBURY: Peggy Duxbury with Calpine
15 Corporation.

16 MS. CORY: Cynthia Cory, California Farm
17 Bureau.

18 MS. SCHORI: Jan Schori, Sacramento
19 Municipal Utility District.

20 MR. HEALD: Bob Heald, UC Berkeley
21 Center for Forestry.

22 MS. MICHELSON: Good morning, Denise
23 Michelson with BP.

24 MR. HERTEL: Mike Hertel with Southern
25 California Edison.

1 MR. MARGOLIS: Josh Margolis with Cantor
2 Fitzgerald Brokerage.

3 MR. PARKHURST: Robert Parkhurst,
4 representing Silicon Valley Leadership Group and
5 Hewlett-Packard.

6 COMMISSIONER BOYD: Thank you all, thank
7 you very much for being here.

8 With that, Susan, I'm going to turn the
9 running of the agenda over to you, and allow you
10 to introduce Eileen Tutt from Cal EPA to give us a
11 presentation. Maybe I just did, sorry --.

12 MS. BROWN: I want to express my
13 appreciation to all the members too for their hard
14 work, especially in the last three or four weeks.
15 We've been scrambling to get ready for this
16 meeting, and I think we'll have a lot of content
17 here that will be of interest not only to the
18 Advisory Committee but the general public.

19 First I'd like to take the opportunity
20 to welcome Eileen Tutt, who is a special assistant
21 to Secretary Lloyd from the California
22 Environmental Protection Agency.

23 And we've asked Eileen to briefly review
24 with you the Governor's global warming leadership
25 initiative.

1 MS. TUTT: Thank you, it's really nice
2 to be here, and I really liked to hear the opening
3 remarks by Jim, I sort of feel like he covered a
4 lot of what I'm going to cover, and I also sort of
5 feel like I'm going to try to keep this short
6 because many of you were at the Governor's event
7 on June 1st, and if you weren't there yo know what
8 was said and what happened.

9 But essentially the Governor on June
10 1st, in San Francisco, at World Environment Day,
11 signed an Executive Order. And that Executive
12 Order set targets, greenhouse gas emission
13 reduction targets, for the state.

14 The targets specifically are by 2010
15 California will be at 2000 levels; by 2020, 1990
16 levels; and by 2050, 80 percent below 1990 levels.

17 The 2010 and 2020 emission targets are
18 really based on sort of an evaluation that was
19 done by the Energy Commission and by a contractor
20 and by the Air Resources Board, and with feedback
21 from the Waste Board and other agencies.

22 And it's based on strategies that we
23 think we could possibly implement in those time
24 frames.

25 The 2050 goal is really sort of a

1 stretch goal. It gets us to where the scientists
2 are telling us we need to be in order to protect
3 the environment for the state, and actually for
4 the world. So that's where the 2050 goal comes
5 from.

6 The Executive Order also put Cal EPA in
7 the lead for coordinating the whole effort,
8 because as we reduce emissions in this state, it's
9 going to take a lot of different agencies in the
10 state, including the Energy Commission, the Air
11 Resources Board, and Dr. Lloyd set up a Climate
12 Action Team that's made up of the Air Resources
13 Board, the Business Transportation and Housing
14 Agency, Resources Agency, Energy Commission,
15 Public Utilities Commission, and the Department of
16 Food and Agriculture. I'm hoping I didn't forget
17 anybody, I wrote my notes here, but --.

18 Anyway, he set up this team that will
19 meet to implement the strategies to reduce
20 emissions in this state. So that's kind of where
21 we're coming from, and Dr. Lloyd chairs that team
22 and I staff that team.

23 In the Executive Order it also calls for
24 a scenario analysis that the Climate Action Team
25 will oversee. It will evaluate the impacts of

1 climate change on California, look at some of the
2 economics around those impacts, what it's going to
3 cost, and also evaluate possible adaptation
4 strategies.

5 So that's the sort of three pronged
6 Executive Order. it's on the website, there's
7 actually a website called
8 www.climatechange.ca.gov. It includes all of the,
9 there's fact sheets, there's the Executive Order,
10 there's the Governor's remarks on June 1st,
11 there's the video that you all will see at lunch
12 today.

13 There's a lot of good information,
14 including the information from this team. It's a
15 joint agency website that will include all of the
16 work as we go forward, not just the Climate Action
17 Team but your work and other work that's going on
18 in the state.

19 That's pretty much it. I will say this,
20 the Climate Action Team, as Commissioner Boyd
21 mentioned, there are two sub-groups of that team.
22 The first is looking at cap and trade, and those
23 sub-groups are made up of the same agencies that
24 made up the Climate Action Team. The Climate
25 Action Team members appointed representatives on

1 those sub-groups.

2 The cap and trade is one of them, the
3 other is the scenario sub-group. It's also made
4 up of the Climate Action Team members, as well as
5 some of the scientists that were up on stage with
6 the Governor on June 1st.

7 There's a whole group of scientists,
8 probably most of you know them, Michael Hanemann
9 and some others, that are going to be helping us
10 with the scenario analysis. And it's going to
11 build upon the work that the Energy Commission has
12 done so far, as well as some of the work that NRDC
13 did and the Union of Concerned Scientists.

14 It'll build on what's already existing,
15 essentially, because we, we do have a report due
16 on January 1st, 2006, from the Climate Action
17 Team. So we have a very short time frame, and
18 what I keep reiterating is that beyond January
19 2006 we are expected to report to the Governor
20 every two years.

21 So in my mind that's a significant first
22 step, but that's what it is, then the work
23 continues. And we do have a long ways to go to
24 get to the 2010 goal, the 2020 goal, and
25 particularly the 2050 goal.

1 So I think that's kind of it for my
2 remarks. If there are any questions I'd be happy
3 to answer them.

4 COMMISSIONER BOYD: Cynthia?

5 MS. CORY: Eileen, I heard you mention
6 regulators, scientists and environmental
7 community. Where does the business community fit
8 in as far as input to the group?

9 MS. TUTT: That's an excellent question,
10 I should put it into my notes. And we have sort
11 of a public process that we've put together for
12 the next, really only about four months.

13 And because we're on such a short time
14 frame the way we're going to do this is we are
15 pulling together, with the help of some of you
16 here, and I'd appreciate any input from any of
17 you, and all of you would be included, we're
18 putting together a list of stakeholders that we
19 would hold briefings for.

20 So we will hold stakeholder briefings
21 specifically for those we know will have input and
22 we know will be interested.

23 We'll also have more general public
24 workshops. There are two of those already
25 scheduled, I think one is in September and the

1 other is in November. And the first stakeholder
2 meeting is currently scheduled for July 28, so
3 it's coming up very quickly, and we will be
4 sending out a notice for that in the next couple
5 of days.

6 Beyond that we have legislative
7 briefings. The Legislature has asked to be
8 briefed upon request, and we're planning on
9 fulfilling that request. So even though we're on
10 a really tight timeline we're trying to get as
11 much input as we can, and I think beyond January
12 2006 we'll probably have a more formal process,
13 perhaps an advisory council or something like
14 that, it's just that, in the time frame that we
15 have I don't think -- you know how long it took to
16 pull together this Advisory Committee, so --.

17 MR. MARGOLIS: Josh Margolis with
18 Cantor. As you look at what we're planning to do
19 now, as evidenced by this table, which is the
20 strategies underway in California to reduce
21 greenhouse gas emissions to the 2010 and 2020
22 reductions; by 2010 23 tons, by 2020, 70 tons, as
23 the result of the strategies. There's no 2050.

24 How close do these strategies get us to
25 the Governor's targets?

1 MS. TUTT: Well, the 2010, they get us
2 about halfway there. And you should know that
3 there is another sort of long list of potential
4 strategies, those are strategies underway, there's
5 a long list of potential strategies that the
6 Climate Action Team is looking at.

7 But some of those, they really aren't
8 ready for public consumption, they're drafts,
9 they're kind of from a brainstorming session if
10 you will, an educated brainstorming session but
11 exactly that.

12 So those additional strategies that get
13 us the rest of the way there in 2010 and 2020 will
14 be included in the January 1 report, and probably
15 will have, well, obviously we'll have those out in
16 draft form prior to the release of the report.

17 MR. MARGOLIS: So 50 percent there for
18 the 2010, do you have an estimate for the 2020?

19 MS. TUTT: The 2020, how much is it?

20 MR. MARGOLIS: It's 70 tons.

21 MS. TUTT: So, we're a little over half
22 the way there, for the 2020.

23 MR. MARGOLIS: All right, and then the
24 2050?

25 MS. TUTT: Well, the 2050, the reason we

1 don't have, like I said it's sort of a stretch
2 goal. And to be quite honest we don't really even
3 know what the baseline looks in 2050, so it's hard
4 for us to, at this point in 2005, evaluate what
5 types of reductions we're going to need in 2050.

6 So as we get closer we intend to do
7 that. But the goal was set based on the science
8 around climate change, not based on an evaluation
9 of strategies that would get us to 2050.

10 MR. MARGOLIS: Okay, then, with respect
11 to the targets that the Governor has cited, I
12 guess I'm, I'll ask a delicate question. Should
13 we look at these as a place we need to get to or a
14 suggestion?

15 MS. TUTT: I think that the Climate
16 Action Team is not taking that as a suggestion, I
17 think it's stronger than a suggestion. It's what,
18 the way we look at it is it's a target that is
19 ambitious but doable with the support of the
20 stakeholders, with the support of this interagency
21 group, and with the support of the public in
22 general, which clearly supports action towards
23 reducing climate change emission.

24 So they're not mandatory targets, but
25 they're not suggestions either. They're somewhere

1 in the middle.

2 MR. MARGOLIS: So we don't need to get
3 there if we don't have all the supports lined up.
4 We only need to get there if we have all those
5 folks supporting it, but we don't otherwise?

6 MS. TUTT: I guess I would say that we
7 already have all those folks supporting it. We
8 have industry support, we certainly have
9 government support from the top down, and we have
10 the public support. So --

11 MR. MARGOLIS: We need to figure out a
12 way to get there, at least is what you're taking
13 it as?

14 MS. TUTT: Yeah, and we are already
15 halfway there with what we're doing. So we need
16 the other half. Which we, again, we think is
17 doable, but will take a lot of work, and they're
18 ambitious targets, they're certainly not weak.

19 MR. MARGOLIS: Okay.

20 COMMISSIONER BOYD: No other questions?
21 Thank you, Eileen. Maybe I'll build a little bit
22 on what Eileen said and just harken back to our
23 first and second meetings where, as as group, many
24 of you pointed out the difficulty in helping the
25 Energy Commission devise various strategies, to --

1 to take my words -- to fill our bin on suggested
2 strategies when you didn't know how big the bin
3 was.

4 We needed goals, I told you at that time
5 that the Governor had charged the Secretary of Cal
6 EPA with the establishment of goals. That has now
7 been accomplished. The size of the bins, over a
8 period of time, have been identified.

9 And it's kind of my view that the work
10 that you are doing, besides advising the Energy
11 Commission on those things now that are pertinent
12 and germane to its responsibilities in the energy
13 sector, certainly can be turned over to the
14 Secretary of Cal EPA for their consideration in
15 carrying out the work of the Climate Action Team.

16 And then trying to strive for the goals
17 that Josh was just discussing. So I think, in
18 light of the very short period of time that the
19 Climate Action Team has and the Governor has given
20 the Secretary of Cal EPA I kind of think you've
21 put a lot of issues on the table in the
22 stakeholder process that I feel will help Cal EPA
23 with their task.

24 At least maybe at the end of the day,
25 when I see the huge consensus that we achieve on

1 some of these issues I'll feel that way, and we'll
2 be able to pass those over to Cal EPA as well as
3 incorporate the appropriate ones into the CEC's
4 IEPR.

5 But with that, Susan, I'll let you have
6 your meeting back.

7 MS. BROWN: Thank you, Commissioner
8 Boyd. I just wanted to note, for those calling
9 in, that we do have copies of a lot of the
10 materials for today's meeting on the website that
11 Eileen mentioned, www.climatechange.ca.gov.

12 I don't really have a presentation
13 today, I just want to briefly outline what I
14 believe are the expectations for today's meeting.

15 I think first we want to receive a
16 report from our consultants, Ned Helme and his
17 staff from the Center for Clean Air Policy, who I
18 might add had been working very long hours
19 including over the weekend to prepare for this
20 meeting. And I owe them all a great deal of
21 personal appreciation.

22 We're also going to be hearing from the
23 subcommittee chairs who have taken on the task of
24 preparing a set of advisory statements, which we
25 will review and discuss together.

1 I might add that these are not yet
2 public statements, in my view, because we have
3 agreed to deem them as work in progress, and I
4 think we need to reassess at the end of the day
5 how far we can go with those statements, to treat
6 them as formal input to the Energy Report, that's
7 really up to the subcommittees.

8 And then lastly we will agree on a
9 process for wrapping up the work of the Committee
10 over the next, let's say, four to six weeks, with
11 your input.

12 With that, I'd like to introduce Mr. Ned
13 Helme, who has a very substantive presentation for
14 you, and I believe, I'm not sure yet if you have
15 the hard copies in your packets, but I did try to
16 provide as much of the information as we had in
17 advance of the meeting.

18 So Ned, with that, take it away.

19 MR. HELME: Thank you, Susan. This
20 presentation is to try to pull together all of the
21 work that we've been doing over the year with you
22 guys, looking at particular sectors and sort of
23 the best analysis that we've been able to bring
24 together on different sectors and some of the work
25 that's been done by ICF and some of the other

1 consultants to the CEC through the PIER process.

2 It's very apropos of the question that
3 Eileen was just asked by Josh and others in terms
4 of where the numbers lie. I'll give you a sense
5 of our best estimates to date of where the numbers
6 lie. Let me just get this to roll --.

7 So I'm going to give you sort of a big
8 picture analytical results, and then after I look
9 at the thing as a whole in the opening part of
10 this we'll go right to the heart Josh's question
11 about how does this all add up and where are the
12 options out there in terms of the next phase to
13 get that other half that Eileen indicated we need
14 to get if we're going to get to these targets.

15 And then I'll talk a little bit more in
16 detail about particular sectors, some of which
17 you've heard a lot about before, and I'll skip
18 over those, like cement we've talked about kind of
19 ad nauseam but some of the other sectors we
20 haven't, so I'll give you a taste of that.

21 Feel free to raise questions or ask as
22 we go through.

23 Okay, this first slide is the 2002
24 latest inventory from CEC, and we've been working
25 off of 1999 in the previous meetings. Basically

1 the numbers are pretty similar, this one includes
2 imported electricity, the sort of pinkish slice of
3 the pie on the left there, 51.7 million tons,
4 which wasn't in the earlier inventory.

5 There are some other changes here,
6 basically the industrial number goes up a bit, and
7 you can see the industrial, 74.8, that's refinery,
8 and a big part of that, about half of that is
9 basically oil refining, some of it is CHP in the
10 oil industry, and then some of the other sectors.

11 Obviously the biggest number still and
12 all will be transportation. You can see the big,
13 light blue segment down there, about 41 percent of
14 the total.

15 MR. MARGOLIS: Ned, before you go on,
16 wasn't the transportation sector much bigger
17 before?

18 MR. HELME: It was bigger relatively,
19 because the old slides didn't show imported
20 electricity, and so --

21 MR. CAVANAGH: And we're so glad that it
22 does now.

23 MR. HELME: Right, Ralph convinced us to
24 make sure that it's in there. Also the numbers of
25 transportation went down a little bit, I think the

1 bunker fuels were taken out in this most recent
2 version of the CEC inventory, that's why it's a
3 little smaller. You're right. And in absolute
4 terms it's actually about 30 million tons smaller
5 as well.

6 MR. MARGOLIS: And then relative to the
7 commitments that Eileen was talking about?

8 MR. HELME: I'll show you that in a
9 second, you'll see that in a second.

10 Okay, in terms of analytical results to
11 date. CCAP's done the work in the transportation
12 sector, cement and sinks, forestry and
13 agriculture. We've also been underway on
14 petroleum refining and the power sector, those of
15 you working on the power sector committee we're
16 meeting on Wednesday to go through the
17 assumptions, the NIMS modeling that we plan to do.

18 So those numbers are preliminary in
19 this, they're not included because they're not
20 complete.

21 ICF Consulting has done several major
22 studies of high greenhouse gas emitting gases, and
23 this is like methane and the semi-conductor
24 industry class, the CFC's and SF6 and so on. So
25 we brought that to bear as well.

1 Some of those studies we've done a
2 little of the work ahead of time, but the ICF
3 stuff is more comprehensive so I built that in to
4 the numbers I'm going to show you this morning.

5 In terms of a summary, what we've sen
6 from the work that both CCAP and ICF have done is
7 basically 36 million tons in 2010 and 117 million
8 tons of potential reductions in 2020. In a second
9 I'll show you a slide that brings that all
10 together, so those numbers mean something to you,
11 it doesn't mean a lot just standing there by
12 itself I'm sure.

13 Fourth bullet is the point Eileen was
14 making. This is the numbers that were released as
15 part of the Governor's announcement June 1st. 23
16 million tons of reductions from measures that are
17 underway today in 2010, and 70 million, as she
18 mentioned, about halfway there, in 2020.

19 In terms of the assumptions that I've
20 got in these tables, since we haven't completed
21 the power sector and refinery analysis we
22 basically assume that if you set the target for
23 these sectors at the same level that the Governor
24 has set the target for the state as a whole you'd
25 get the reductions listed here, 15 and two,

1 respectively, in 2010, and 26 and six in 2020.

2 Now here's the total by sector of the
3 CCAP and ICF numbers. And you can see it by
4 sector. So this is all the analyses you've seen
5 individually put in one place.

6 So these are reductions in addition to
7 the set that Eileen mentioned that were in the
8 Governor's announcement. So you would add the 23
9 in 2010 from the Governor's announcement and the
10 70 in 2020 to this to see what we've got as a
11 total.

12 And here's a list. This is a list of
13 the reductions that were laid out in the June 1st
14 announcement. And you can see the biggest one
15 here is of course the Pavley bill standards in
16 2020, you get 30 million tons, very significant,
17 and at a cost saving, it's a real winner measure.

18 And you can see some of the other things
19 that are in here, the accelerated renewable
20 portfolio standards. By getting the 33 percent by
21 2020 that gets you another 11 million tons. And
22 you can see some of the others, you've seen some
23 of these before I think. Yes, Michael?

24 MR. HERTEL: On the accelerated
25 renewable portfolio standards, I notice that's

1 under the PUC and CEC. Does that apply to sector
2 Y or just to the IOU's.

3 MR. HELME: I think this is sector Y.
4 Matt, you want to comment, I think that's right,
5 this is sector Y, these numbers. Yeah. These are
6 public values and public power. Ralph?

7 MR. CAVANAGH: Yeah, I just want to
8 point out to my colleagues, although I'm not sure
9 I agree with this, at least the energy efficiency
10 investments by the investor-owned utilities in
11 particular, which are a very large chunk of carbon
12 emissions, are not -- they don't show in that
13 table, they're in the baseline.

14 And so, if you'll all notice in your
15 footnote two, on the version you have in your
16 paper copy, you can see those reductions
17 specified.

18 MR. HELME: And they're substantial.

19 MR. CAVANAGH: Yeah.

20 MR. HELME: But they are counted as in
21 the baseline because they're already being done.

22 MR. HERTEL: Ralph, do you know if those
23 measures are pretty much across the board again,
24 across the sector, or are they less so in the rest
25 of the sector.

1 MR. CAVANAGH: I think those reductions,
2 I believe, are only for the investor-owned
3 utilities. And I think that it would be important
4 helpful to get the public power sector added to
5 that.

6 MR. HELME: Okay, then, and this is
7 perhaps the most important slide, this sort of
8 brings it all together, so if you'll follow me.

9 First we've got the estimated baseline
10 for 2010, 538 is the official estimate that was
11 released as part of the June 1st announcement;
12 2020 we've done a range, and I think Eileen was
13 suggesting something in the middle of this range
14 when she said we're halfway there, but basically a
15 range of 575 to 590 for 2020 depending on your
16 assumptions about different sectors.

17 I think there'll be an effort to make a
18 more exact estimate of what the baseline is going
19 to be, but at the moment this is our closest shot.

20 And then if you look at the second line,
21 2000 emission is the 2000 baseline. Okay, so
22 that's where we were at 2000. So if we're trying
23 to stabilize at 2000 levels in 2010, you see the
24 blue line, the third one, the difference is 49
25 million tons, that's basically the target that

1 you'd need to get to 2000 by 2010.

2 And then if you look down below that
3 we've got 1990 emissions and the difference for
4 that, and obviously that would be the 2020 target.
5 So you look over to the 2020 line, the blue line,
6 and you see the target is between 136 and 151. I
7 think Eileen was suggesting about 140, which is
8 sort of in the range there.

9 Now to get to the key measure, we've got
10 the CCAP and ICF measures. In 2010 36 million is
11 our estimate. We have 23 million that are
12 basically in that chart I showed you that's
13 already underway in California. So you've got a
14 total of 59, which exceeds the target, which was
15 49.

16 And then below it you can see, I've got
17 hypothetical additional reductions from the power
18 sector and from oil refining, of about 17. So
19 that puts us at something like 76 total here,
20 compared to a target of 49. So comfortably above
21 the target that they were talking about in terms
22 of possible options.

23 This doesn't talk about cost, this just
24 talks about the total that's out there. Everybody
25 follow me there? I'm whipping through these

1 numbers, I want to make sure everybody gets it.

2 Yeah?

3 MR. HERTEL: Except that some of the
4 things, the efficiency that we just talked about,
5 the RPS that we talked about, aren't sector-wide
6 for the electricity sector?

7 MR. HELME: Right, for those the RPS is
8 in this 23, okay, and the efficiency numbers are
9 in the baseline. So what we're doing here in the
10 power sector is basically a cap on load-serving
11 entities. It's basically what we thin you could
12 get if you stabilized emissions in that sector.

13 And again, we haven't run the modeling,
14 so this is just the hypothetical estimate, this
15 isn't anything hard and fast, it's just saying if
16 you stayed at 2000 levels this is where you'd be.
17 So that's sort of the picture for 2010.

18 And then for 2020, you can see again
19 we've got 117 from CCAP and ICF, we've got 70 from
20 the numbers put together in the existing programs
21 in California, as you can see 187 exceeds the
22 target. And again, looking at refining and
23 looking at the power sector cap we could add
24 another 32.

25 So again, in terms of aggregate tons,

1 there's a fair amount here that well exceeds the
2 target, but again it's always a question of what's
3 it cost and how hard is it to get it, and we're
4 going to talk about that later in the day.

5 Yes, they are there, but what would you
6 do to get them, is kind of the key question here.

7 So you get a sense of the picture here.
8 And I should note that also we have not analyzed
9 the work, the potential for the reduction in the
10 residential and commercial sectors that use
11 natural gas.

12 The energy efficiency stuff from
13 electricity is in here and in the baseline and
14 could be ramped up but we've not done any, and I'm
15 not aware of any other analysis, perhaps the CEC
16 will be doing some analysis and looking at that.

17 But that's a fairly substantial sector
18 if you go back and look at our inventory. Here we
19 go, you see residential and commercial up at the
20 light blue and the purple slots, and it's about 40
21 million tons, so ostensibly that's going to grow
22 and there will be some opportunities for
23 reductions there as well.

24 So there's a number of things here and
25 we haven't done all of the industrial sector

1 options. So this is not a complete analysis,
2 there are still some other things you could do in
3 thinking about how you'd get to these targets, but
4 you get a sense of the overall picture.

5 Let me go back to the -- any questions
6 on this? Everybody clear? Any thoughts on this?
7 Okay, great.

8 Okay, this is basically just some
9 background on how we built the new estimates. And
10 again, our sense on the costs and the range of
11 costs are from things that are no cost or a
12 positive net savings to some really high cost for
13 a very limited, isolated measures.

14 Basically here is a look at costs on the
15 ones where we do have costs, and again remember
16 for the power sector we don't have costs yet and
17 refining we don't have costs yet.

18 You can sort of see the aggregate
19 cumulative tons at different price levels. And
20 then this gives you a look at, I think this is
21 perhaps the most interesting.

22 This gives you a look at which sectors
23 are at what price. So -- we talked about this the
24 last time. In thinking about this you really want
25 to think about, there are plenty of criteria for

1 trying to decide what to do, but one of the first
2 criteria you look at of course is how much is it
3 per ton, where are the cheapest opportunities.

4 So if we look at this slide, and you can
5 see that on the right it gives you what the
6 different categories are, you can see cement is at
7 the top for each of the slides for a zero.

8 The column on the far left is zero
9 dollars or net savings. The second column is \$10
10 a ton more or less; the third column is between
11 \$10 and \$20 a ton; and then the fourth column is
12 \$30 a ton.

13 So you get a look at that. And you can
14 see the bars, the purple bar is landfills. So you
15 see landfills are a pretty substantial number of
16 tons at all three of those price ranges.

17 You can see manure management, this is
18 our biodigester thing we talked about a lot
19 earlier, you can see some pretty substantial
20 opportunities here. Again, remember we have to
21 look also at the questions about are there
22 barriers to doing this, net metering and other
23 things, in other words how do we get there, but
24 again looking at the number you see that manure
25 management is pretty attractive, pretty good size

1 numbers there.

2 So is ag forestry, these are sinks
3 measures, some of the things that Gordon's study
4 laid out, and you see this is a pretty big chunk
5 there of \$10 a ton and a little smaller chunk of
6 the \$20 a ton.

7 So you get a sense of what these choices
8 are, high GWP, we haven't talked too much about
9 this, but this is basically the kind of things
10 that are in the commitment that the semi-conductor
11 industry's already made nationally, so a lot of
12 this probably could almost be in the baseline, but
13 it's a bi opportunity in California and well on
14 its way, from what I understand, from what the
15 semi-conductor industry is doing.

16 So if you look at this it's sort of
17 useful as a way of thinking about first cut. How
18 do we decide which sectors we should go after, and
19 once we've done that then you ask the question of
20 how do you do it and what's the program look like?

21 Is it an incentive program, is it a
22 mandatory program, is it voluntary, what kinds of
23 things would we do to get these tons, how feasible
24 is it, what kinds of changes would be needed to
25 get it.

1 But I think we probably should try to
2 show you this in a schematic that puts one up
3 against another so you can get a sense of what's
4 out there, and obviously, once we've done the NIMS
5 modeling for the power sector we'll have those to
6 lay out with these.

7 My sense is that the NIMS runs are
8 probably going to be in this \$20 a ton or less
9 range to get the kind of numbers we're talking
10 about in the power sector, but again we've got to
11 wait until we get the numbers from actual runs.
12 Josh?

13 MR. MARGOLIS: Are there any measures
14 that are negative dollars, that are cost saving?

15 MR. HELME: There are some that are
16 saving us money.

17 MR. HELME: Like some of the manure
18 management farms could make money doing this if
19 they could get past the limitation of net
20 metering.

21 MR. MARGOLIS: And I guess a bottom line
22 conclusion is it's going to cost us nothing to \$30
23 depending on the decisions you make?

24 MR. HELME: For these sets of options,
25 right, right. And some other options we don't

1 have the costs for them and they'd be more
2 expensive than \$30. But this is just to give yo a
3 flavor of what's available in this set of price
4 ranges. Other questions?

5 Okay. Here's 2020, same basic idea,
6 same price ranges. You can see the prices get a
7 little higher. I added a \$50 here just to give
8 you a flavor.

9 If you'll notice, in that first slide,
10 there's nothing in here on transportation. And
11 that's basically because most of the
12 transportation measures are more than the \$30 a
13 ton.

14 And you see it here in terms of 2020
15 this big, sort of, I don't know what color that
16 is, mauve, kind of pink, whatever, you see the big
17 job on the right -- I'm a little color blind so
18 I'm not sure what color that is.

19 In any case, you can see, that's a
20 pretty big number here. This is for freight, this
21 is opportunities in the truck idling and the
22 retrofit of engines, some of the port kinds of
23 things. Pretty big number, but of course fairly
24 expensive again, but this is something to think
25 about.

1 I would note that the Pavley bill would
2 be in here -- these are future measures, Pavley's
3 in the existing measures -- but Pavley comes in at
4 a positive cost. So that's a big benefit on the
5 transportation side at no cost or beneficial cost.

6 And there's some questions about some
7 projections that there may be an opportunity for
8 sort of an advanced Pavley beyond 2015 that might
9 be quite cost-effective as well, it would get you
10 some more tons, but we don't have the cost of that
11 here.

12 But just to give you the feel that,
13 again, most of these are not in the transportation
14 sector, they're in the other sectors. Yeah,
15 Nancy?

16 MS. SKINNER: Ned, did you not include
17 any measures in cars and light trucks in there
18 because you didn't know how to cost them out, or
19 you didn't have a measurement to --?

20 MR. HELME: No, I'll show you when we
21 get to transportation, I'll show you the costs,
22 we've got costs, but they just are more expensive
23 so we didn't show it in the slide. Yes?

24 MR. PARKHURST: Ned, are these costs in
25 present day dollars?

1 MR. HELME: Yes.

2 MR. KNIGHT: Ned, how do you compare
3 sectors? In other words, are you applying
4 consistent cost analysis, or --?

5 MR. HELME: Yeah, same discount rate,
6 same, right.

7 MR. KNIGHT: The reason I say that is,
8 in case of transportation, the cost-effectiveness
9 is determined by CARB, but there's a lot of
10 controversy on that.

11 MR. HELME: I don't know if Greg or Matt
12 want to say anything about it, we used the same
13 discount rate for all sectors, right? Am I right,
14 four percent? ICF used four percent, so we
15 normalized ours to four percent so it would be
16 apples and apples here.

17 Okay, let me switch now to the sectoral
18 work. Give yo a little more depth on each of
19 these. I just showed it to you in chunks of the
20 entire sector, now let's talk a little bit about
21 what's within these sectors.

22 As I mentioned, these are the sectors
23 we've covered, either our work or ICS work in
24 summarizing it here. As I know that we're still
25 looking at costs for the power sector.

1 And on the refining sector we've worked
2 with several of the companies. It's tough in
3 terms of data on actual measures within the
4 sector. It's not that we have data on total
5 emissions from the refining sector, it's like 35
6 million tons going up to about 42 by 2020.

7 Not a lot of growth, because there's not
8 a lot of projected new refineries to be built in
9 California, but there's really not much data, and
10 we've tried from all over the world, not just here
11 in California, and had a tough time with this one.

12 So I think our recommendations in the
13 refinery sector are going to be really focused on
14 developing mandatory reporting on data so that we
15 can rebuild a target. If you decide this is a
16 sector that you really want to go after you really
17 need better information to be able to have target
18 strategy.

19 You could say, well, let's just have it
20 stabilized at current levels, and that wouldn't
21 give you much in terms of -- it would be hard to
22 figure out what that costs today, there just seems
23 to be a real paucity of data in this area.

24 Okay. Transportation.1 You've seen
25 this before, this is a breakdown on transportation

1 emissions, you can see the light duty vehicles
2 are 71 percent of the inventory, a big chunk.

3 The other big chunk is the purple one,
4 and unfortunately the CEC inventory lumps aviation
5 with some other diesel. Our hunch is that most of
6 this is aviation, but we don't know for sure. And
7 other heavy duty and so on is smaller than you
8 might have expected in terms of relative share in
9 California.

10 Here's the picture overall. Annual
11 emissions go from 190 million tons in 2002 to
12 about 310 million tons in 2020. This assumes a
13 1.8 percent annual growth in vehicle miles
14 traveled. And as I noted earlier it's 41 percent
15 of the total for the state in terms of its
16 emissions.

17 The transport reductions I'll show you
18 in a second identified with our work and with the
19 subcommittee on transportation, about 65 million
20 tons, and you have to add to that the 30 million
21 tons in 2020 that the Pavley bill would get.

22 So you've got about a 95 million ton
23 reduction there, and if you look, we go from 190
24 to 310, to a 95 million ton reduction wouldn't
25 quite get you back to 2000 levels for the

1 transportation sector.

2 So, knowing that, you kind of know what
3 you're going to get to 1990 or 2000. Other
4 sectors probably are going to carry a little more
5 burden than their share, relatively, to the
6 transportation sector, in order to get there. And
7 as I mentioned, advanced Pavley might be out
8 there.

9 In terms of the reductions, we saw three
10 core groupings. 15 percent of the savings looked
11 to be from light duty, 36 percent from heavy duty,
12 and about 14 percent from ports and aviation and
13 rail.

14 And this slide shows you the measure by
15 measure, somebody asked earlier about this. And
16 you can see the prices in the far right column for
17 the different types of measures. You see ethanol,
18 11 million tons. Reduction in BMT is basically
19 smart growth, which is being pursued in a number
20 of places here in California.

21 We've got a five million ton, probably a
22 conservative estimate there. And you can see some
23 of the other numbers.

24 The big number here is under freight
25 transportation. It's diesel, heavy duty vehicles

1 and gasoline, medium duty hybrids, about 25
2 million tons in 2020. Again, the price is up
3 there but pretty promising as an opportunity, in
4 terms of the option, and then you can see aircraft
5 and some of the other options here, so it gives yo
6 a sense of that.

7 MR. MARGOLIS: Did I see \$1429 per ton?

8 MR. HELME: That's the upper end of --
9 Greg, is that cold ironing? Which one is the
10 highest price here, port electrification?

11 MR. DIERKERS: That would be cold
12 ironing, it's a pretty big infrastructure cost.
13 The other stuff is taken from a GIX study that was
14 -- (unintelligible).

15 MR. HELME: Cold ironing is plugging the
16 ships into electricity at the port. Nancy?

17 MS. SKINNER: For the emissions from
18 aircraft, was the calculation based on all
19 aircraft trips originating in state, or just the
20 number of air miles flown over the state?

21 MR. HELME: Greg?

22 MR. DIERKERS: I'd have to check, I
23 believe it was just over the state. I don't think
24 we looked at --

25 COMMISSIONER BOYD: Greg, would you come

1 to the mike, I can't really hear you.

2 MR. DIERKERS: Sure. I would have to
3 check to see about that number. I think what that
4 was is just sort of instate.

5 MS. SKINNER: So meaning just aircraft
6 flying --

7 MR. DIERKERS: Anything originating in
8 California.

9 MS. SKINNER: Okay, so trips
10 originating, but would it calculate the full
11 length of the trip or only the air miles within
12 the California state airspace?

13 MR. DIERKERS: Within the full length of
14 the trip. I don't think we can break it out,
15 necessarily --

16 MS. SKINNER: Okay, so all aircraft
17 trips originating in the state?

18 MR. DIERKERS: Right.

19 MR. MARGOLIS: Just as we go through
20 this, I'm concerned that there might be an
21 impression that this Committee or this group has
22 concluded that these costs are what we should be
23 looking at. I don't think we want to come to the
24 conclusion that \$1923, up to that total, is what
25 we should be focusing on.

1 MR. HELME: No, this is just to give you
2 the potential. You guys tell us what you think
3 makes sense. This is not to say the Committee's
4 recommending this, this is just saying "this is
5 the sum total of the reductions at different
6 prices and different measures." This is just an
7 assessment, it's not a recommendation. Let me be
8 very clear here.

9 MR. MARGOLIS: Yeah, our task should be
10 to wind our way through this, and at the end of
11 the day we want to come up with a conclusion that,
12 we've got to come up with smarter, faster, cheaper
13 reductions than \$1923.

14 MR. HELME: Or 50.

15 MR. MARGOLIS: Or 50.

16 MR. HELME: Remember, our goal was to
17 give you guys a picture in each sector of what the
18 supply curve looks like in each sector, that's
19 what this is about. So you've got the supply
20 curves. The next presentation will be talking
21 about how you go about it, and there's a whole set
22 of questions there as well, so --.

23 It's not enough to say hey, there are
24 these tons, we'll take 'em, how are we going to
25 get them if we decide we want to take them. If we

1 decide we're going to take 'em, how are we going
2 to get 'em.

3 COMMISSIONER BOYD: Josh, it seems to me
4 that this very statement you made about faster,
5 cheaper, better is in the way a recommendation
6 that an advisory committee would make, as I see
7 what Ned's got here is a total menu of
8 possibilities.

9 And it would seem to me that then the
10 advisory committee would say, I mean, you really
11 need to go for exactly as you said. I don't know
12 how much depth you want to go in to in dicing
13 through individual strategies and saying this is
14 the one you should pursue visavis another.

15 Because another group of folks is going,
16 under the Climate Action Team, is going to go
17 really digging deep through everything they can
18 come up with, including the work that's been done
19 here, so --.

20 I'm just -- to say you the agony of
21 thinking you're going to have to put these under
22 electron microscope and dice them down, maybe your
23 caveat takes care of a lot of angst.

24 MR. MARGOLIS: It's just, on the one
25 hand, if you take a look at the table of the

1 options that are up there, it's comforting to see
2 that we're more than 50 percent there to meeting a
3 target, but when you step back a bit and say well,
4 geez, 50 percent there assuming we're willing to
5 pay these prices.

6 And that's, that causes you to say, we
7 have to do exactly what you said to --

8 MR. CAVANAGH: But that would be wrong,
9 of course, so let's be clear. The 50 percent
10 there is the stuff we're already doing that's
11 clearly cost-effective. And now we're looking at
12 other options going beyond what we're already
13 doing.

14 MR. MARGOLIS: So it's that extra
15 increment that's going to cost us. All right, for
16 that extra increment we have to --

17 MR. HELME: But I think the key, Josh,
18 and I'll get to this in the concluding slide. For
19 example, the 2010 target, we can get there with
20 measures under \$20 a ton. If we decided that our
21 cut point was what's the cost, that was our only
22 decision, that wouldn't be our only decision but
23 let's say we were going to do it that way, you'd
24 just throw away all of these options that are
25 really high priced, because they're not under the

1 \$20.

2 You can get there under \$20 with a set
3 of options that doesn't include most of these.
4 It's just to give yo a flavor in each sector of
5 what the supply curve looks like.

6 MR. HERTEL: So just so that we're
7 clear, this slide that you're showing us now in
8 transportation is beyond the existing Pavley
9 regulations?

10 MR. HELME: Yes.

11 MR. HERTEL: And you're asserting that
12 measures underway do not exceed \$20 a ton?

13 MR. HELME: I'm saying that there are
14 enough measures below \$20 a ton to get to the
15 target without having to do any of these really
16 expensive ones in the 2010 time frame. That's
17 what I'm saying.

18 COMMISSIONER BOYD: Eileen, you have a
19 comment?

20 MS. TUTT: Yeah, I'm not sure, I hope
21 this is okay and not out of protocol, but the
22 transportation, the light trucks and cars, those
23 numbers look a lot different than what was in our
24 motor vehicle greenhouse gas regulatory package.
25 So I don't know where those came from.

1 But did you happen to look at what we
2 did in terms of alternative fuel vehicles?

3 MR. HELME: Yes, Greg, you want to
4 mention that?

5 MS. TUTT: Okay.

6 MR. DIERKERS: Yeah, we looked at that.
7 This was a lot of, the cars and light trucks
8 specifically was based on some of the input from
9 our advisory committee, the transportation
10 advisory committee and what they wanted to focus
11 on.

12 So it may sort of go beyond some of what
13 you've done. The thing is, a lot of this is based
14 on the CEC's Prudhomme reduction (sp) study, the
15 latest iteration of that.

16 MS. TUTT: So they aren't necessarily
17 consistent -- we're talking two different
18 estimates, one based on industry estimates and one
19 on the Air Resources Board. Okay.

20 MR. DIERKERS: I think that's right.
21 And we can follow up off line and talk more about
22 specifics.

23 COMMISSIONER BOYD: Ben?

24 MR. KNIGHT: A question on the first
25 item, the ethanol. Did you compare this, say E85

1 use and cost-effectiveness, compared to increasing
2 the blending and the general gasoline blend?

3 MR. DIERKERS: No, this was, I don't
4 think we did that. This was based on the cost of
5 the fuel itself, including chipping cost and
6 production cost. So I don't think we compared
7 specifically the blending to the use of the
8 vehicles.

9 But it would include the incremental
10 cost of the flex fuel vehicles.

11 MR. KNIGHT: Would you consider that a
12 potential alternative approach to increasing
13 ethanol use?

14 MR. DIERKERS: Yeah, I think that would
15 be, actually.

16 COMMISSIONER BOYD: Nancy?

17 MS. SKINNER: Would these calculations,
18 they're also based on the, in effect the cost per
19 to of carbon, correct? Carbon solely?

20 MR. DIERKERS: Right.

21 MS. SKINNER: And I think that, well,
22 it's not necessarily this committee's charge, the
23 benefit of a multi-agency task force is that
24 they're going to be looking at wider factors.

25 So if we were calculating also say, cost

1 of ton for criteria air pollutants or a variety of
2 other benefits that might result from some of
3 those measures, you may have very different -- you
4 may have the same cost for implementation, but
5 weighing it against benefits could be much
6 greater.

7 Whereas we're looking at it right now
8 purely and solely from the carbon point of view.

9 MR. DIERKERS: Right, thanks, Nancy, for
10 bringing that up. That's the presentation coming
11 up, on the policy options. We looked at, we
12 mentioned that as a way to sort of rate this.

13 Because you look at freight and other
14 measures, just by itself it's pretty expensive.
15 But there are many co-benefits that we're not
16 counting, so thank you.

17 MR. HELME: And I think Nancy's point is
18 a critical one here. I mean, you basically, if
19 you say you're getting mobility benefits on some
20 of the light duty vehicles you're getting smart
21 growth, livability benefits, that sort of thing,
22 you could sort of allocate to those costs a
23 portion of those benefits, the same way with
24 conventional pollutants.

25 So you're right, this tends to be the

1 highest conservative estimate because it's
2 basically saying all the benefits are attributed
3 to CO2, so all the costs go to CO2, so clearly
4 higher.

5 COMMISSIONER BOYD: Ned, I want to take
6 this opportunity to build on something Ben
7 mentioned about E85 or other percentages of
8 alcohol. I think I mentioned in some of my
9 opening comments that last Friday the ARB and the
10 CEC sat in this room to -- and had a workshop on
11 alternative fuels.

12 And of course as the hearing notice
13 said, the driving forces were air quality and
14 energy diversity. But the interesting thing
15 throughout the course of the day that came out was
16 that, like it or not, the general consensus of
17 most of the audience, and the people who spoke,
18 not on the part of the officials sitting on the
19 dais, was that forcing function in this day and
20 age has become energy diversity and climate
21 change.

22 So you can't dice these things apart.
23 Air quality always has been and will be an
24 important driver, but these other drivers became
25 more important to people.

1 Now, with respect to Ben's comment about
2 varying percentages of ethanol, until such time as
3 the ARB finishes the work it's doing on the so-
4 called complex model, it's hard to get any policy
5 guidance or direction on that subject.

6 But the interesting thing to me was that
7 E85 came out as an extremely popular, viable
8 strategy that both agency's agreed publicly they
9 were going to pursue even more. And there's a lot
10 of driving forces there.

11 There's a quarter of a million plus
12 flexible fuel vehicles running around California
13 for which there's not a drop, well maybe a drop or
14 two to be found but -- so it just opens up a lot
15 of potential. And there you'd get maybe a
16 spillover benefit in the climate change arena that
17 you weren't figuring on while we in the energy
18 business get to address energy diversity finally a
19 little bit, and energy security through diversity.

20 So I guess all I'm saying is that things
21 are happening every day that shed new light on
22 different issues that intersect this question of
23 climate change. You just can't get away from it.

24 Even if you try to purposely avoid
25 saying the words "climate change" it comes up in

1 the discussion of so many actions that society
2 might take. Michael?

3 MR. HERTEL: I was just curious about
4 the VMT segment of that. My impression is that a
5 VMT is a very important aspect of how much
6 reduction you can get, because unless you switch
7 to extremely low carbon fuels for transportation
8 VMT tends to overwhelm you, that is the growth of
9 VMT.

10 And I notice you had it to be
11 determined. I guess two questions. One, do the
12 numbers there reflect some sort of assumption
13 about VMT, that is it's going to grow as you
14 suggested, as 1.8 percent per annum?

15 MR. DIERKERS: Right, this is shaving
16 that baseline, and it looks at the five major
17 urban areas of California -- LA, Sacramento, San
18 Francisco, Monterey Bay and San Diego.

19 And so it doesn't actually include the
20 rest of the state, although there's other
21 metropolitan planning organizations that have
22 plans that show, you know, VMT reductions. Those
23 are, those five areas are where the bigger
24 reductions are, so that's where this number comes
25 from.

1 It ranges from a tenth of a percent to
2 ten percent reduction, so it's, in terms of, off
3 the growth. This is by 2020.

4 MR. HERTEL: And I take it the to be
5 determineds there for VMT reductions are a big
6 tasks of what you're trying to look at at some
7 point in the future, that is what's the cost of
8 trying to, if I can put it crudely, tax people on
9 the basis of the miles that they drive? Is that
10 what you're thinking, or -- what is that about?

11 MR. DIERKERS: No, the cost would be,
12 what are the, to get people to reduce the VMT, to
13 reduce the rate of growth, what are the costs that
14 go in to that. So it's a complicated equation,
15 and I don't think anyone's really figured it out.

16 But it requires a certain investment in
17 transit, a certain density program, but what, how
18 much of that are counted in these costs.

19 MR. HERTEL: But are congestion charges
20 on the table, or are VMT charges on the table?

21 MR. DIERKERS: That's not what this is,
22 this is really smart growth, and the reason it's
23 to be determined, it's Nancy's question right in
24 spades, if I'm pushing greater density around
25 transit stations, if I'm changing land use design

1 like they're doing here in the SACOG region here
2 in Sacramento, how do I estimate those land use
3 costs?

4 I mean, they're infrastructure
5 investments the community's making anyway, in
6 stations and what have you, so that it's very hard
7 to separate out what costs -- if you put all that
8 on CO2 it would be ridiculous, because you're
9 doing that for a whole series of lifestyle quality
10 and so on --

11 MR. HERTEL: Additionality in reverse?

12 MR. HELME: Right, exactly. Our sense
13 is this is likely to happen, these are things that
14 are being pushed, and obviously BT&H is thinking
15 about doing more in this area as well as, SACOG
16 has a huge program to do this for air quality
17 reasons, so we feel this number is pretty
18 conservative, we've seen much higher numbers, but
19 we wanted to be careful in terms of the estimate.

20 COMMISSIONER BOYD: Now, I want to say
21 something here about, we've got feebates up there,
22 or pay as you drive insurance. And I want to
23 remind the audience of the earlier discussions
24 about this is a menu of things to be looked at and
25 what have you.

1 I don't want to wake up tomorrow morning
2 and see a no hidden taxes campaign started again,
3 as was started in the context of the 2076 report.
4 When you start talking about economic and pricing
5 measures you threaten to bring down any discussion
6 of anything, such as we cowards backed away from
7 even broaching that subject.

8 And that, not being a coward at least
9 had the courage to put it on a menu of things that
10 people might want to look at in the future. And
11 pay as you drive insurance is something near and
12 dear to the heart of Commissioner Rosenfeld of
13 this agency, who keeps pushing us collectively to
14 at least look at it once in awhile.

15 MR. HELME: Okay, so, some quick
16 thoughts on next steps and the analysis that could
17 be done, if it's deemed useful in terms of looking
18 at some of the other opportunities here. I
19 mentioned the idea of looking at a Pavley beyond
20 2016, I expect CARB is probably doing that
21 already.

22 And here a number of other things we
23 could look at in terms of opportunities.

24 Let me turn now to forests and sinks and
25 soils. I've got Gordon here to sort of back me

1 up, I'll give you the big picture and if you've
2 got questions he's ready to respond. Gordon Smith
3 is our consultant from Eco4 in Oregon.

4 First, the baseline. We're basically
5 seeing something like 19 million tons net
6 reduction currently in the baseline due to the net
7 of what's happening in the sinks area. Nine and a
8 half million tons from forest and soil, trees,
9 capture carbon and trees growing obviously
10 captures more carbon. And then carbon storage and
11 wood products is the other half of this, and
12 landfill waste.

13 So it offsets about four percent of
14 state emissions in 1999.

15 Options, these are the options that
16 Gordon laid out in his study. We're looking at
17 afforestation, thinning to promote growth, and
18 burying of the harvested wood.

19 So if you thin the forest and you've got
20 the slash and some of the trunks you could bury
21 these and that would actually capture the carbon.
22 Unusual strategy, usually we collect it and chop
23 it up and make biomass pellets out of it or sell
24 the trunks if the trunks are big enough, so this
25 is an unusual strategy, but I'll show you the numbers.

1 Converting hardwood stands to conifers.
2 Conifers capture more carbon, so that would be a
3 way to over time get some benefits.

4 Extending timber harvest rotations.
5 Obviously if you cut the trees on a 20 year cycle
6 and you move it to 30 years the carbon is kept in
7 the trees longer so you have a net carbon sink
8 benefit.

9 Enhancing yard trees, and increased use
10 of no-till cropping. This is an ag measure that
11 we've talked about a little bit before in the
12 subcommittee. In addition some reducing of
13 emissions.

14 And then thinning to promote forest
15 growth and then using the thinning pieces for
16 biomass energy production. And reducing the
17 clearing of forest land, maybe an offset program.

18 I saw WalMart recently announce that
19 they will offset the loss of trees on any WalMart
20 they build around the country. If they chopped
21 down all the trees they'll plant trees or they'll
22 replace it, so it's beginning to be an effort.
23 Some of the states in the Northeast have thought
24 about this idea of requiring offsets for big bucks
25 developments that cut down a lot of trees and open

1 up the land.

2 Here's the slide with the options that
3 Gordon identified. And you can see afforestation,
4 now the color coding, green is like a green light,
5 red is like a red light, and the yellow and orange
6 are in-between.

7 So it gives you a sense of the
8 difference in the numbers in each area. The
9 afforestation, we're looking at three and a half
10 million tons a year, fairly reasonable prices, as
11 you can see. Forest health thinning, 3.7 million
12 tons a year, again under \$10 a ton. This idea of
13 landfill fittings, a little unusual idea, where
14 you take the slash from thinning the forest, or
15 the extra trunks, and bury them in a secure place,
16 and that would obviously capture the carbon. I
17 know in Wisconsin they've looked at this as
18 dropping this stuff in the bottom of the Great
19 Lakes as a way of capturing the carbon.

20 You can see convert hardwood to conifer,
21 it's a yellow light, not big reductions over time,
22 although not very expensive.

23 Extending the rotations, again pretty
24 expensive, and Weyerhausen and others would resist
25 this in the sense that that means, you know, you

1 don't cut your trees so your production is held
2 down, so in terms of straight profits this isn't
3 as attractive as some of the other options.

4 And you can see some of the other things
5 here, so you can get a sense of them.

6 And last one down here, no-till
7 agriculture, 3.8 million tons per year for 15
8 years. Again, the big question here, what are the
9 economics like. For some crops it may be
10 attractive, for others, depending on the price of
11 the carbon, it's so little return that it may be
12 very hard to interest farmers in doing this, so --
13 . Just depends on what part of the country you're
14 in on that, so --. Yes?

15 MR. HEALD: I appreciate the analysis
16 that was done and I think some of it is very good.
17 A couple of points, we've identified some other
18 activities which are potentially able to produce
19 results in levelized costs per ton that are in
20 that \$10 to \$20 range.

21 And they focus around just different
22 levels of activity, primarily just increasing the
23 average fan density, the average amount of carbon
24 stocks. So there are other forest management
25 techniques that can do that and can do it in the

1 short term, at least by 2020.

2 And also altering species composition.
3 For example, in the Sierra, introducing Sierra
4 redwood, which is capable of growing at much
5 higher stand densities and for longer periods of
6 time at economic levels.

7 So I think there's more tons available
8 at the \$10 to \$20 per ton range. My primary
9 comment here though is this red line through thin
10 to reduce fire. In the pie chart that you showed
11 at the beginning there's no inclusion of the GHG
12 emissions from uncontrolled wildland fires.

13 And in California those are estimated by
14 current studies to be on the order of the same
15 magnitude as the total of all stationary sources
16 in California. So GHG emissions from wildland
17 fires are a huge amount in California.

18 And the global climate models predict
19 that those may increase 20 to 40 percent by 2050,
20 threatening to overwhelm any reductions that we
21 might make at any cost. So finding techniques
22 that actually reduce emissions from wildland fires
23 is important.

24 The analysis on thinned reduced fire
25 shown here primarily focuses on thinning

1 overstory, the taller, larger tree, to fairly low
2 levels. And I concur, that's not an effective
3 technique.

4 But reducing surface fuel, reducing the
5 connecting fuels, the ladder fuels, and other
6 techniques like that I believe have been
7 demonstrated with recent reports to have
8 substantially positive effects on reducing the
9 potential for wildland fire losses at reasonable
10 cost levels, and should be included in the
11 analysis.

12 MR. SMITH: Uh, you're absolutely
13 correct. There are other options that are very
14 much like the conversion of a hardwood conifer
15 that could be pursued to increase your average
16 carbon stock over time.

17 On thinning to reduce fire, I have spent
18 a substantial amount of work investigating this.
19 There's been very little research that's been done
20 that looks at the carbon effects. And the effect
21 on a per acre basis are really different than the
22 effects across the landscape.

23 Let me give you an example that has
24 numbers, and these are just ballpark general
25 numbers. Say you've got 100 carbon tons per acre.

1 You're wildfire -- and these things change over
2 time so it gets complex -- your wildfire might
3 burn half of that, and the rest decays over a
4 couple of decades.

5 And you're right, there's a number of
6 things you could do to reduce the fire hazard.
7 There's making gaps between canopies, there's
8 reducing the ground fuels, there's getting a gap
9 between the ground fuels and the canopies, and
10 there's just reducing the total amount of fuel up
11 in the canopies.

12 There's four different things. And the
13 only study that I was able to find on all this
14 research that measured both fire risk and
15 calculated carbon stocks, these are overstocked
16 stands that are at high risk for fire, getting
17 them to low risk was reducing the stand density,
18 reducing the carbon stock, and it did not recover
19 for decades.

20 If you grew a few giant trees perhaps
21 you could recover that in centuries. If there are
22 other strategies that did not permanently reduce
23 the carbon stock on site you might be able to get
24 a greenhouse benefit.

25 At any rate, let's get back to a per

1 acre basis. The only numbers I found were,
2 depending on what time period you looked at,
3 ballpark one and a half or two acres thinned had
4 the same emissions as one acre of wildfire.

5 So how much acre is burned? And this
6 study does count those emissions from the fire.
7 The thing is, in the conifer forests of California
8 only about two tenths of one percent of your total
9 forest area burn each year.

10 Now if you have to treat ten percent, or
11 20 percent or 30 percent of your landscape to cut
12 that number in half you're reducing your landscape
13 burning by one tenth of one percent, and you're
14 treating ten percent of your landscape.

15 And if you get emissions, for every two
16 acres you thin you get the emission of an acre of
17 fire, this analysis came up with 17 times greater
18 emissions from the thinning than fire, so even if
19 this analysis is off by a factor of ten it would
20 still be on a landscape level.

21 Now, I'll close with the caveat, if we
22 can find prescriptions that reduce fire risk with
23 smaller reduction in carbon and where this carbon
24 reduction on the ground is restored over time,
25 then this could change from a red to a green.

1 Then the other thing is, the comment is
2 what's your policy goal here? Probably you're
3 going to thin to reduce fires just because people
4 don't like wildfires, they don't like their houses
5 burning up, and you're going to do this even if
6 it's a greenhouse cost.

7 MR. HEALD: Just briefly, I think that
8 the connection to multiple issues is important.
9 The fact that without some additional intervention
10 we could have a 20 to 40 percent increase in GHG
11 emissions from an emitter that is equal to all the
12 stationary human sources in California warrants
13 additional work.

14 Second, the human health effects from
15 these uncontrolled wildland fires is extremely
16 adverse, so that's an overlaying factor.

17 And third, let's look at the
18 techniques -- and again I would refer you back to
19 that Stevens paper that just came out that
20 demonstrates that alteration of surface fuels and
21 connecting fuels at fairly low cost can preserve
22 the overstory capacity to store and sequester
23 carbon while reducing wildland fire risk.

24 MR. HELME: Thank you. Wendy?

25 MS. PULLING: A question that sort of

1 relates to this. A question about whether or not
2 you all used any criteria to assess the co-
3 benefits from the different options or conversely
4 the unintended negative consequences from any of
5 these options. So just wanting to make sure we're
6 solving for multiple problems and not creating
7 unintended negative consequences.

8 How did you treat the co-benefits and
9 the potential negative impacts?

10 MR. HELME: I'll answer overall and then
11 I'll let Gordon talk about this particular one.
12 We tried to look at that, we didn't try to
13 quantify it because we were just trying to give
14 you a scoping analysis of a wide range of sectors
15 so we didn't really have a chance to do that, but
16 clearly there are a number of questions there that
17 are important.

18 And we flag it in certain areas, where
19 we say well, this is a good option but it may have
20 these unintended consequences. So where we
21 thought that was a big deal we tried to flag it,
22 but given the limits of the scope of the analysis
23 we didn't do it.

24 But let me ask Gordon if he has any
25 particular analysis on this particular part.

1 MR. SMITH: It's the same thing, you can
2 look in the report, there's some discussion, it's
3 usually qualitative, about this one has other co-
4 benefits or this one has negative associated
5 effects.

6 And it comes back to what we were
7 discussing a few minutes ago, as Nancy raised, as
8 in general you're lumping all the costs toward the
9 CO2, but with the exception in these forestry
10 strategies if there's significant wood revenue
11 involved that is counted.

12 And that's the time value of money, is
13 why extending rotations is so expensive, and why
14 some of these thinning treatments are so cheap,
15 because you get wood out of them.

16 MR. HELME: Michael?

17 MR. HERTEL: I hope I have a simpler
18 question. Are these data based only on measures
19 as applied in California, or do they extend beyond
20 California's borders?

21 MR. HELME: This is only California, and
22 where possible it was studies that are of
23 California landscapes and California forests.

24 MR. HERTEL: Do you have data on what
25 similar measures applied elsewhere in the US or

1 other countries would be? Costs, I mean?

2 MR. HELME: Oh, if you applied some of
3 these strategies in other locations, would it be
4 cheaper, more expensive?

5 MR. HERTEL: Yes.

6 MR. HELME: There are some instances
7 where there have been studies in particular,
8 locations. I wouldn't say that there's
9 particularly reliable global supply curves. Some
10 of these are very sensitive to land costs, and
11 California tends to have very high land costs.

12 So if you were to implement it in a
13 location with a low land cost or a faster tree
14 growth rate the cost per ton could be low, less
15 than \$10 a ton CO2.

16 MR. HERTEL: We've been talking to a
17 national environmental group about that option,
18 particularly associated with preserving wetlands
19 and bottom lands. And it looks very positive and
20 very cheap and you get a lot of co-benefits.

21 MR. HELME: This study builds on the
22 Winrock work I think done for the PIER program, so
23 Gordon had a very extensive study that he could
24 draw on for the California specific information.
25 Peggy?

1 MS. DUXBURY: Did you all look at the
2 work that Westcarb had done that looked at some
3 terrestrial sequestration up in the Northern
4 California area and sort of did a whole study that
5 came out, actually by CEC, a couple of months ago
6 on sequestration, both geological and forest
7 agriculture?

8 MR. SMITH: I did use a study of biomass
9 availability that was addressed, I think it came
10 out a couple of months ago with CEC. The Westcarb
11 activities that I found had not yet produced
12 results. That I found.

13 MR. HELME: Jim, question?

14 COMMISSIONER BOYD: I was just going to
15 comment that this was a wonderful revelation of
16 how complex and complicated some of these issues
17 are.

18 The issue of co-benefits that Wendy
19 brought up, or really Robert's connection to
20 multiple issues, gets in to, just reminds me
21 unfortunately of years of debate about the issue
22 of dealing with the forest, the issue in
23 California of biomass, the issue of cellulose to
24 other fuels, that are really interesting to us now
25 in the energy business.

1 And the difficulty it is to program in
2 the economic analyses, the societal benefits that
3 you get out of it and, you know, the consequences
4 that you get, the pluses and the minuses, I think
5 Robert mentioned it.

6 I was startled by the red line myself
7 because we're right in the middle, once again, of
8 debating biomass, and I see Doug Wickizer sitting
9 out there from CDF who's been dealing with this
10 for years, of trying to get the economics to work
11 and see if the technology is there to deal with
12 it.

13 And a big component of California's
14 monstrous biomass stock is this stuff in the
15 forest that most people agree would be good to get
16 out of the forest. So, this is just a little
17 piece of a giant iceberg, and I'm sure it's an
18 analog for every one of these kinds of issues that
19 folks are going to have to deal with.

20 And I'm beginning to think that
21 retirement is looking real attractive.

22 MR. SMITH: Let me follow up just a bit.
23 Now this was thinning to reduce fire. But if you
24 thin to produce forest growth the numbers are
25 really different, because you're not reducing

1 carbon stock.

2 But again it comes back to the issue
3 that Bob Heald raised, if you can find a
4 prescription that reduces fire without
5 substantially reducing the forest carbon stock
6 this might change to green.

7 MR. HELME: Okay, thanks. Thanks,
8 Gordon.

9 This is the summary of what you just saw
10 in that slide a minute ago. We're saying about 12
11 and a half million tons by 2010 additional to the
12 baseline net reduction we already had, and 18
13 million tons in 2020.

14 Here are some of the other thoughts
15 here. Basically what Gordon's saying here is that
16 this isn't the total technical potential that he
17 showed you, this is sort of the economic
18 potential, there's the potential for more than
19 this at higher prices, we just took a first cut at
20 these levels, the supply curve is more extensive
21 further out, we just didn't do the whole thing
22 here.

23 All right, let me shift gears now to
24 cement. You've heard this before so I'll zip
25 through this one.

1 Basically, cement is a pretty attractive
2 sector. Yeah?

3 MR. HERTEL: No data on geologic
4 sequestration assumptions?

5 MR. HELME: No, hopefully that will come
6 out as part of the NIMS modeling, if we look at
7 the option of gasification with carbon
8 sequestration as one of the control options and
9 see what that --

10 MS. DUXBURY: I think that's an
11 important point, because California in particular
12 has some tremendous geological sequestration
13 potential, and looking at the landscape of
14 sequestration, it would be good to look at what
15 Westcarb has done, looking specifically at the
16 Sacramento Basin and other parts of the state
17 where you have a lot of opportunity for geological
18 sequestration, potentially.

19 MR. HELME: That'll be part of this when
20 you look at the gasification option. Obviously
21 California has a big option for tertiary and
22 secondary recovery of oil where you inject the CO2
23 in the Bakersfield area. So, pretty promising.

24 Okay, quick look at cement. We've
25 talked about it a number of times so I'll zip

1 through this. Basically we think we've got a
2 couple of million tons of opportunity here at very
3 low cost, as you saw my overall slide, some of it
4 pays for itself, some of it is under \$10 a ton, so
5 a pretty attractive opportunity.

6 There are basically three key measures
7 here. Using more limestone in the cement,
8 blending the cement with slag steel and other
9 materials, and using waste tires as the fuel.

10 This is one of the examples where some
11 policy changes separate from carbon policy would
12 make this happen. So, for example, the blended
13 cement -- we talked about this before -- CalTrans
14 has standards for the quality of cement, wouldn't
15 allow it currently, we'd need to change to that to
16 open this one up.

17 The waste tire issue is really one of
18 public resistance. People think that tires are
19 worse than burning coal, in fact they aren't from
20 a toxics perspective and from other air pollution
21 perspectives, but that's kind of the perception,
22 so we've got a barrier that's not really an
23 economic barrier but sort of a public education
24 barrier, and good question whether we can overcome
25 it, but it's out there.

1 And this is the slide showing you the
2 emissions reductions. Again, we assumed two
3 percent annual sectoral growth. If the growth
4 were only one percent than there's a bigger
5 opportunity for reductions in this sector, so it
6 shows you how what you assume about the growth
7 rate shows you what you've got in terms of your
8 reduction potential.

9 But again this one's real cheap, and you
10 can see everything's under \$10 a ton. And some of
11 the other things you're looking at, this one jumps
12 out at you.

13 In terms of landfills, this one's drawn
14 off of the ICF study. We're showing landfill
15 emissions growing over time, 2010 and 2020. And
16 the ICF study finds significant opportunities for
17 reduction.

18 Now, to get to the bottom line here and
19 pretty cheap prices you can see, the bottom line
20 here the net reductions are a little less than the
21 net increases that are going to be happening.

22 So on balance, doing everything in the
23 landfill sector basically holds our own or a
24 little worse off, a little bit like transportation
25 in that sense. So some good opportunities, but

1 you're growing fast because there's a lot more
2 stuff being landfilled.

3 So, as a net it's not necessarily a
4 winner in terms of helping us move towards the
5 target.

6 Some data here on landfill reporting.
7 There's some question marks. About 25 percent of
8 the emissions wouldn't be captured. For those of
9 you who don't know this system, we're basically
10 capturing the methane and using it to generate
11 electricity or to ship it as natural gas. As I
12 say, about 25 percent of it escapes currently, so
13 there some data questions.

14 This is one of the ones that gives you
15 an example of, oh, couldn't you do cap and trade?
16 Well, a little tricky here because you really have
17 to estimate what the case emissions are. So this
18 may be a much better sector for getting offsets or
19 for getting credit base reductions rather than
20 trying to put them in a cap.

21 Same kind of think we face with
22 biodigest and some of the others, where it's very
23 hard to estimate the baseline, so you're better
24 off thinking about it as a credit generating area
25 rather than a cap or a mandatory standard,

1 technology standard, and that sort of thing.

2 Mineral management. Again, we've talked
3 about this at previous meetings. Very, very
4 attractive. A significant increase in emissions
5 over time, but very cheap.

6 As I mentioned there's some things here
7 where farmers could make some money if we could,
8 again, remove some of the barriers.

9 This is basically the question of net
10 metering that we talked about at the last meeting,
11 and Cynthia and some others spoke bout it.

12 This is a place were a change in policy
13 on the net metering side could move this thing
14 forward significantly. There's also some
15 questions with dairy farming and the dairy
16 digesters in terms of NOX emissions and what that
17 looks like and are there ways to overcome that.

18 So this is one where the tons are at an
19 attractive price, and it looks like it could be an
20 incentive, farmers might be very interested in
21 this, but there's some things that would probably
22 need to be done to make it possible as part of any
23 strategy you might put together.

24 Natural gas, this is looking at leaks
25 from compressor stations, from gas pipelines, and

1 from gas supply systems in the state. Not big
2 reductions, you can see the final bullet, we're
3 talking about less than a million tons.

4 Again, fairly cheap, attractive
5 opportunities, not a big benefit, but we're
6 thinking about it. Yes, Ralph?

7 MR. CAVANAGH: Ned, what fraction of the
8 state's gas distribution and transmission do you
9 estimate is leaking now?

10 MR. HELME: Stacy, do yo want to help me
11 here? This is an ICF study -- the national
12 average is like a one percent leak rate. I don't
13 know if California is higher or lower in the ICF
14 analysis, but the national average is like one
15 percent.

16 Yes, Wendy?

17 MS. PULLING: A question about the
18 assumptions included here. Did you all look at
19 blowdowns in your analysis?

20 MR. HELME: Again, this is ICF, I don't
21 know. Stacy, do you want to comment?

22 MS. DAVIS: (unintelligible)

23 MS. PULLING: So a blowdown is when
24 natural gas pipeline needs to be repaired and the
25 mechanism is either vent the gas that's in the

1 pipeline to the atmosphere, which is called a
2 blowdown, or take a more, a little bit more
3 complicated process to basically push the gas
4 elsewhere, move it out of that pipe, treat the
5 pipe, then allow the gas back.

6 And EPA, USEPA natural gas star is a
7 program that I would just encourage you to look
8 at, because it may be that you'll find that the
9 economics of avoiding or minimizing blowdowns may
10 become more attractive.

11 It looks like you're not, while ICF has
12 not found a huge tonnage opportunities there, I'd
13 like to see what would happen if you factored in
14 avoiding blowdowns, or minimizing blowdowns.
15 Sometimes if there's an emergency you can't avoid
16 it completely.

17 MR. HELME: You can see the baseline
18 here, two million tons, so it's a pretty small
19 number for the state, relatively, but we'll check
20 that out and get back to you.

21 COMMISSIONER BOYD: Ned, I want to
22 ask --

23 MS. DAVIS: Stacy says the number is a
24 .2 percent leak rate. Okay, 0.2, so that's quite
25 a bit below the national average.

1 COMMISSIONER BOYD: Wendy, I was
2 wondering, with California's aging infrastructure
3 everywhere, including the gas system, I'm
4 wondering if the G part of PG&E is anticipating
5 more maintenance needs and a greater potential for
6 blowdowns in the future?

7 MS. PULLING: Um, I don't know that I
8 absolutely know with certainty the answer to that
9 question, in terms of would we anticipate more
10 blowdowns. We are, as you know, trying to find as
11 many ways as we can to control greenhouse gas
12 emissions, so there's not necessarily a
13 relationship between repairing the aging
14 infrastructure and an increased number of
15 blowdowns.

16 But we also have, the aging pipeline has
17 public safety issues too, as you're aware, so
18 we're under federal law required to get out there
19 to make sure that we don't have public safety
20 issues associated with leaking.

21 But I would say really the place where
22 the thinking has been done on this is with
23 national gas star, and then some of the trade
24 groups, the American Natural Gas Association, and
25 INGA, the Interstate Natural Gas something or

1 other Association. It's a good question though.

2 MR. HELME: Okay, the semiconductor
3 industry. As I mentioned, this is one where
4 there's a big increase forecast in terms of
5 emissions.

6 This is, again, an ICF study that looked
7 at the whole range of options. As you can see,
8 the reductions are quite substantial, the baseline
9 is 3.36 and we're talking about a 3.1 reduction by
10 2010 and a baseline in 2020 of 7.74, we're talking
11 about 7.14 reduction, so a huge reduction, 90
12 percent.

13 Basically, to get to the bottom line,
14 very low cost relatively speaking, k to the other
15 options, but these are basically comparable to
16 what the semiconductor industry has committed to
17 nationally or internationally to get to the
18 percentage below, ten percent below 1990 levels in
19 California -- 1995?

20 California was .4 in 1990, I'm not sure
21 what it was in 1995, but basically these levels of
22 reduction in California would get you to the
23 national commitment that the industry's made. I
24 don't know if Robert wants to comment on how we're
25 doing here.

1 MR. PARKHURST: Yeah, a couple of
2 things. I think the growth is probably
3 overestimated here. In 1995 it was the, I think
4 it's the US total was 4.2 million metric tons, and
5 as of 2004 it was about 3.2.

6 And that's probably going to stay flat
7 between 2004 and 2010. In the same time period,
8 to give you a kind of benchmark, it's a 48 percent
9 increase in shipments. So it's a huge increase
10 versus all of the abatement that's already been
11 done, so I'm not sure that the growth is there.

12 The challenge -- and Guido and I had a
13 couple of conversations on this -- is trying to
14 get the number for California, and we recognize
15 that and it's something that I'm trying to get
16 some answers for, because we've got it at the US
17 and national level, but it's not available at the
18 California level.

19 I think the majority of semiconductor
20 manufacturing, or the majority of semiconductor
21 PFC processes in the state, are now R&D. So
22 you're seeing less and less. I don't know that
23 you would see an increase in the amount of
24 shipments. There's a lot more, proportionally, in
25 the southwestern states and overseas as well.

1 MR. HELME: Okay, conclusions for this
2 presentation. Clearly, as you look at the target
3 that we're talking about and the size of the
4 inventory, there's no silver bullet here, there's
5 no one target that jumps and gets you big chunks
6 of tons, for California more so than some other
7 states you really have to go after a whole range
8 of sectors and area to get to the kind of target
9 that we're talking about.

10 So it requires a more nuanced approach
11 perhaps than in some states. As we looked at
12 this, I made this point earlier in response to
13 Josh's question, assuming reductions in the power
14 and refining sector, basically getting to 2000
15 levels and 1990 levels in each of the years, we
16 can get to that 2010 target with options in the
17 \$10 to \$20 a ton range.

18 So quite doable in terms of the costs,
19 again begging the question of again how easy it
20 is to get these tons, but they're out there at a
21 reasonable price.

22 And then for 2020 it looks a little more
23 expensive. Clearly, for 2020 we'd need to do some
24 more analysis, more indepth, my sense is that it
25 also begs the question of technological

1 innovation. If you've got the Governor setting
2 this target and sending this signal you're going
3 to see a lot of innovation.

4 We've got plenty of examples -- NOX, SOX
5 controls, renewables in Germany -- where the cost
6 in technologies has dropped by a factor of 50
7 percent due to pushing the technology and due to
8 regulatory requirements.

9 So I think it's reasonable to think that
10 the same kind of thing could be happening here
11 with CO2 across the sectors once you've sort of
12 got the signal that there's a reward for making
13 innovation that's needed.

14 So I think we have to be a little more
15 conscious about our cost estimates on the 2020
16 frame, I think maybe a little more confident about
17 the costs in the 2010 frame.

18 And then final point, one I've made a
19 couple of times, it's not just about how you
20 require carbon reductions, it's also about do you
21 need to change some of the base policies in the
22 state to take barriers out of the way, like the
23 examples with the biodigesters, the example with
24 cement blending.

25 You know, a change in policy could make

1 it possible to move some things that are cost-
2 effective today if we made those changes. So
3 those are sort of some good news options for us
4 thinking about.

5 So I'll stop there, Mr. Chairman, and
6 open it up. I think, from our perspective,
7 perhaps go back to the slide that sort of ties it
8 all up, the one with the -- here we go. Showing
9 you the different sectors and what can be gotten
10 at different prices, and I think that a way of
11 thinking about this is this is one criteria for
12 making decisions, costs.

13 What other criteria does the Committee
14 think are really key to choosing what options we
15 pursue -- political feasibility, implementation
16 possibilities, technology barriers, etc. so I
17 think that might be the place to jump off. But
18 I'll stop there and be happy to answer any
19 questions or sit down, as preferred.

20 COMMISSIONER BOYD: Further questions?
21 I kind of thought everybody got them out there
22 during the course of the discussion. Josh?

23 MR. MARGOLIS: One more thought. Ned,
24 with respect to the cost on this slide and the
25 next slide, are we very confident that these costs

1 are accurate, or could they vary by orders of
2 magnitude?

3 MR. HELME: Oh, I think, not orders of
4 magnitude. I think these are pretty well
5 documented. The ones where we have more data
6 uncertainty aren't on here, we haven't gotten them
7 all done, like petroleum refining.

8 But these are pretty well documented, a
9 number of studies have been done in other teethes,
10 and of course in Europe, where they have a more
11 aggressive carbon program. So, I think we have
12 pretty good confidence on these numbers. Stacey,
13 do you want to comment?

14 MS. DAVIS: (unintelligible)

15 MR. MARGOLIS: I ask because, before we
16 started off with the SO2 acid rain trading program
17 we had thought that the costs were going to be
18 here. And eventually, through the cap and trade
19 program, through various measures, through a
20 variety of different things that didn't play out
21 and some that did play out that weren't assumed,
22 costs were far lower.

23 That's one reason I ask. And the other
24 reason is because of what Mike asked, because if
25 we go out of state we could end up with much

1 different costs.

2 MR. HELME: I think that's right, the
3 two points there. One is, this whole point about
4 technological innovation, clearly in the SO2
5 program we got a lot of things to happen that we
6 didn't expect that drove down the price.

7 We've seen a big change in scrubber
8 costs and NOX costs over time and, so today
9 they're half what they were 15 years ago, same way
10 as I've indicated, the renewables costs in Europe
11 of wind has dropped by 50 percent, due to the
12 incentives that have been provided.

13 So this assumes costs today, it doesn't
14 assume technological innovation, we're not trying
15 to guess how much things will improve, so it gives
16 you a kind of upper bound in terms of those kinds
17 of questions.

18 And the other point that's important,
19 Josh, is obviously, anywhere else you look in the
20 world where they've done these CO2 programs
21 they've allowed purchase of offsets, from the
22 clean development mechanism, the Kyoto Protocol,
23 from outside the state, etc.

24 And this assumes that all this is done
25 in California in these sectors, not purchasing

1 credits from somewhere else where high reductions
2 have been made.

3 So again, upper bound, you could
4 certainly push that cost down if you opened up the
5 trading market.

6 MR. HERTEL: Could you go back one
7 slide?

8 MR. HELME: Sure.

9 MR. HERTEL: Maybe I was sort of taking
10 a nap right there, but it says that by 2010 we
11 could meet our goals at less than \$20 a ton?

12 MR. HELME: Yes. See, here you see, the
13 cumulative is 27 tons in the CCAP/ICF. We had 23
14 in the tons from the state that the state had
15 indicated were underway already, which gets you to
16 50, which is more than the target, the target was
17 49.

18 Plus this doesn't include power sector
19 and refining. And certainly the power sector we
20 can get some tons under \$20 a ton.

21 MR. HERTEL: Right. Just a couple of
22 comments. I guess one thought I have is, I'm a
23 little concerned about the assumption that these
24 underway measures are universal across the
25 economy, they're not.

1 And the Governor's Order doesn't impose
2 those. You said, for example, that there would be
3 an attractiveness to having the deadlines and
4 knowing that you'd better get your act in gear and
5 start doing some stuff, but since their goals are
6 not enforceable measures that may be questionable.
7 So that's one thing.

8 And the second thing that encourages me
9 here is that, if the costs are less than \$20 a
10 ton, there may be some wills to think about a
11 safety measure.

12 In other words, one could just say I'm
13 willing to tolerate X dollars per ton as cost to
14 the economy, and if it goes above that cost I'm
15 not willing to tolerate it. Put in a safety valve
16 and a lot of resistance tends to mitigate I think.
17 So that's another option.

18 COMMISSIONER BOYD: Jan?

19 MS. SCHORI: Maybe I'm picking up on
20 some of the same things that Mike is mentioning.
21 First, I just want to be sure I understood what
22 the baseline is for the power sector.

23 The assumption is that the 33 percent
24 RPS is sector wide for power, the assumption?

25 MR. HELME: No, it's in this list of

1 strategies underway, this is the June 1st --

2 MS. SCHORI: What I'm really trying to
3 figure out is, at the end of the day, the cost
4 layers in the power sector to understand what is
5 being included as already covered and included in
6 rates, to be frank, and then what are we laying on
7 top of this as additional recommendations.

8 So I'm understanding the IOU load
9 reductions through energy efficiency are in, the
10 Muni's are not, the RPS standard at 33 percent is
11 in for everybody?

12 MR. HELME: It's not in the baseline,
13 it's in this list of strategies under way in
14 California. So it's the thing presented on June
15 1st.

16 MS. SCHORI: I think I'm confused about
17 what that means, when you say "strategies
18 underway." Are you counting that then as baseline
19 on top of which we would be adding up to \$20 a
20 ton, which my staff quickly calculated for me is
21 about \$8 a megawatt hour based on .4 tons per
22 megawatt hour emissions.

23 I'm just trying to figure out how these
24 layers work. And then the other comment I would -
25 - I noticed when I was looking at the manure

1 management, since SMUD is in the middle of manure
2 management with dairy digesters in our service
3 area right now, and these projects, as I think
4 everyone knows, right now are very marginal
5 economically and are requiring assistance both
6 from the federal government and from us -- when we
7 keep putting up charts that say that net metering
8 is a zero cost, that's more really accurate.

9 And I just came from a conference where
10 I got pounded by an MIT professor on solar, and
11 the net metering programs that we run in
12 California to support solar. And his joke to me
13 on cross-examination -- or that's what it felt
14 like -- was that we Americans prefer our taxes
15 hidden.

16 So I will simply comment that, as I'm
17 trying to think through how to work on the power
18 sector recommendations, at the end of the day the
19 economy does have an impact as electric rates go
20 higher and higher, and I know that, at least in
21 some of the things I've seen related to the
22 investor-owned utilities, and I'm not familiar
23 with all of them certainly at this point, there
24 are cost caps that are built in about how high
25 we're willing to go.

1 So maybe that's related to what you're
2 suggesting. I'm just trying to figure out, what
3 are we stacking on top of -- what is assumed in
4 the baseline for the economy when the strategy's
5 underway, and then what are we proposing to layer
6 on top of that so that, at the end of the day, we
7 can value the emissions that we're trying to get
8 rid of related to climate change, and then match
9 that up to how much of that is coming off of
10 electric rates, either directly or indirectly, as
11 we -- because I'm looking at a lot of your
12 strategies, and a lot of your strategies, at least
13 that's in SMUD's service area, green building
14 initiatives, all of that, is being supported by,
15 to be frank, public goods expenditures or other
16 subsidies that are coming off of electric rates.

17 So that's what I was trying to figure
18 out.

19 MR. HERTEL: Jan, what I was going to
20 try to help with is, as I understand what they're
21 saying, the conclusion that we can get to the 2010
22 gubernatorial goal, at less than \$20 a ton,
23 includes the assumption that we would move to 33
24 percent RPS across the electric sector.

25 MR. HELME: That's right. It doesn't

1 assume, it doesn't, in what we're showing you
2 we're not assuming any additional reductions in
3 that number because we haven't run that model yet,
4 so we don't know the cost of doing a cap on out of
5 state electricity as yet.

6 MS. SCHORI: And I recognize I'm
7 probably out ahead of the formal model for the
8 power sector, but as I watched this presentation a
9 lot of the things you're identifying relate to the
10 power sector and initiatives that are being
11 carried by the power sector.

12 And they're all good initiatives, but at
13 the end of the day I'm trying to figure out what
14 is the loading in terms of dollars per megawatt
15 hour that we're going to be getting from support
16 through the power sector.

17 MR. HELME: This table, which is the
18 CCAP/ICF analysis, all these prices do not include
19 power sector numbers. So these are other sectors
20 other than power. We don't have the estimates
21 yet. Stacey, you want to comment?

22 MS. DAVIS: The numbers that we have in
23 there for manure management do assume the ICF
24 study, which does not build in the additional cost
25 of NOX control, and we've been working with Guido

1 Franco to extend their analysis.

2 MR. HERTEL: And though I didn't respond
3 to my pledge to Cynthia to get back to her on the
4 digester bill, we are not opposing that measure.
5 But we are making the comment that the cost of
6 taking power from that kind of source, methane
7 digesting, at a time when the system is not
8 needed, is not absorbed.

9 In other words, that's an additional
10 cost that needs to be on. And so, as with many
11 other things, for example with wind, as the
12 penetration grows very large then the
13 intermittency becomes a system reliability problem
14 and you get back up.

15 And all we're concerned about, as I
16 think you're mentioning, Jan, is that those
17 additional costs be borne by the calculation of
18 that particular sector. So that wind requires
19 natural gas as backup to deal with the
20 intermittency then that cost has to be figured in
21 to the cost of wind.

22 If methane digesting is going to be
23 relied upon, then the extra cost of taking that
24 power at a time when the system does not need it
25 is also figured in. So that the costs are borne

1 fairly by the given source. Just so there's some
2 accuracy there.

3 MS. SKINNER: Ned, can we just clarify
4 that that RPS number that you had up there, the
5 accelerated RPS, does cover IOU's and municipals.
6 It covers the entire -- or it it only IOU's?

7 MR. HELME: That's my understanding, and
8 Eileen, you want to comment?

9 MS. SKINNER: It does?

10 MS. TUTT: That was what the Governor
11 said in his speech June 1, we had --
12 (unintelligible)

13 MR. CAVANAGH: I think Jan put this in a
14 useful way by saying in effect how much of this is
15 already being paid for in rates, and how much is
16 additive.

17 And what's helpful for me there in
18 thinking about that, for 2010 and 2020 you've got
19 reduction goals calculated against business as
20 usual, 59 million tons in 2010, 145 million tons
21 in 2020.

22 What you've done is calculating those
23 reductions is you've built in as already paid for
24 in effect the energy efficiency goals for the
25 investor-owned utilities, and the RPS targets for

1 the investor-owned utilities, the existing RPS
2 targets.

3 And then over and above, not yet paid
4 for, is the accelerated RPS, which is public power
5 and investor-owned utility share of the
6 accelerated RPS.

7 Something important that's missing --
8 the public power sector has already paid for some
9 reductions, in the form of energy efficiency and
10 renewable energy that are already underway. And I
11 think those are missing from the analysis.

12 That is to say, they don't show up
13 anywhere. They are not in the baseline. The
14 energy efficiency that public power collectively
15 is going to acquire between now and 2010 and 2020
16 is not in the baseline, and it's not showing up as
17 incremental savings not yet paid for in this
18 table.

19 And the same is true of whatever they're
20 doing with renewable energy that is not covered in
21 the accelerated gubernatorial target but that is
22 already in their resource plans.

23 Now I think an important point that I
24 will come to later is that I do believe there is a
25 gap between the public power effort, with one very

1 honorable exception represented at this table, and
2 the investor-owned utility effort.

3 And that it is important to acknowledge
4 that gap somewhere and to try to deal with it.
5 But this is -- and we've talked about this before,
6 and it's really important -- the power sector is
7 not homogenous in California.

8 The public power side is, I believe Jan,
9 a third of electricity sales and probably a
10 quarter of revenues?

11 MS. SCHORI: I think it's about 25 --
12 yeah, that's right. And actually I think there's
13 more than 30 public power systems at this point.

14 MR. CAVANAGH: But I think it's a third
15 of electricity. And as a fraction of greenhouse
16 gases associated with this sector it is probably
17 more than proportional, given the magnitude and
18 particularly --

19 MS. SCHORI: A third is higher than any
20 number I've heard except when people talk
21 transmission, so I'm not sure, I'll have to check
22 that.

23 MR. CAVANAGH: So anyway, but the point
24 is, we should know that and we should have a sense
25 of what is properly accounted for in the baseline

1 of efficiency and renewables for both sectors and
2 what is properly additive.

3 And I think that is just missing from
4 where we now stand in terms of where the analysis
5 is. And it's something that, Jim, I hope as this
6 effort goes forward that the Energy Commission can
7 just help clarify.

8 MR. HERTEL: If I could, Ralph, I guess
9 the distinction I'd make is that, for the IOU's
10 there's more than a commitment, there's a
11 regulatory requirement. And that's not the case
12 with the public power sector.

13 MR. CAVANAGH: Yeah, agreed.

14 COMMISSIONER BOYD: That's also been
15 recognized by the Energy Commission.

16 MR. HERTEL: And Ralph, I'd note that
17 we're doing this meeting on Wednesday to talk
18 about the base case, the reference case, for the
19 NIMS modeling. And we ought to really take a hard
20 look at that and see if -- because the modeling,
21 you basically, if we haven't taken into account
22 that efficiency we need to lop that off of the base
23 case before we start running any policy runs, so
24 that's an important piece.

25 MR. MARGOLIS: With the accelerated RPS,

1 does that assume a more robust trading market, or
2 does it assume more of the same of what we have
3 now? More of the same.

4 MR. HELME: I assume, I'd defer to
5 Eileen the --

6 MS. TUTT: The 33 percent assumes more
7 of the same. Although I can't really say that,
8 because to be quite honest we have asked the PUC
9 and the CEC to put together a work plan as to how
10 they get the 33 percent, and we haven't seen that
11 yet. So I don't really, I think it's out there on
12 the table, we talked about it, but we haven't seen
13 it in writing how we get there. So I guess --

14 MR. MARGOLIS: But these costs are, they
15 have to be based on something.

16 MS. TUTT: The costs that CCAP is
17 putting up?

18 MR. HELME: We haven't estimated any
19 costs for this 11 percent, that's not been done
20 yet. This is the --

21 MS. SCHORI: Isn't the PUC using an \$8
22 per ton cap on modeling expenses for new
23 generation now? That's one of the reasons, when
24 you keep using this \$10 to \$20 number as the cost
25 going forward that would be the trading cost or

1 whatever that we're trying to model.

2 That is not, as I understand it, what's
3 being done right now. That's significantly higher
4 than what's being done right now. Isn't that
5 true, aren't you using \$8 a ton, rather than \$20 a
6 ton?

7 MR. HERTEL: No, you're talking about
8 the carbon matter?

9 MS. SCHORI: Yes, for resource planning.

10 MR. HERTEL: Okay. For procurement of
11 five year or longer contracts it's \$8 to \$25 a
12 ton. The Public Utilities Commission right now
13 has started with \$8 a ton, but that is distinct
14 form the RPS discussion entirely.

15 MS. SCHORI: Yes, I understand that.

16 MR. HELME: Again, to clarify, we've
17 done no analysis yet on any of the power sector
18 options, in terms of costs. So the \$10 to \$20 is
19 just about the other sectors that we have done
20 analysis on.

21 COMMISSIONER BOYD: Cynthia?

22 MS. CORY: I think this is a different
23 way of saying what Jan and Mike have already said,
24 but on the charts that show the bar graph, that
25 shows the big bar under, I guess \$10 a ton, and

1 then we've got the other chart that shows you get
2 27 tons less than \$20, that assumes that the net
3 metering happens and the cement standards are
4 accepted and all of that, is that correct?

5 MR. HELME: Yes.

6 MS. CORY: I think that's important to
7 note that, that's probably not going to happen.

8 MR. HELME: Yeah, the point is, if you
9 wanted to pick that option you'd have to make
10 those policy changes. Nancy?

11 MS. SKINNER: We may discuss this more -
12 - you're still going to do a measures
13 presentation, correct?

14 MR. HELME: Yeah.

15 MS. SKINNER: Yeah, we may discuss it
16 more there. But whether you ran any numbers, I
17 hate to be the one to bring it up, but on the
18 assumption of Pavley not going into effect due to
19 legal obstacles -- because Gary's charts that show
20 us meeting both the 2010 and the 2020 are based on
21 not a huge tonnage from Pavley but they're based
22 on Pavley going into effect.

23 MR. HELME: You can see here, this is
24 again the slide from the June 1st announcement --

25 MS. SKINNER: It's a bigger issue in

1 2020 --

2 MR. HELME: 2010 doesn't make much
3 difference, it's a one time, so it won't affect
4 whether you meet the target in 2010. Obviously
5 2020, 30 million tons is a big deal.

6 MS. SKINNER: Right. But did you run
7 some numbers without it, what kind of scenarios,
8 what we'd have to do without it?

9 MR. HELME: No, but you could
10 basically -- you've got all these bottom up
11 numbers, so if you add another 30 ton whole you've
12 got to find, fix --

13 MS. SKINNER: 30 tons, right.

14 MR. HELME: an analysis on the slide for
15 30 million tons.

16 COMMISSIONER BOYD: Okay. While Susan's
17 agenda proposed a couple of questions to debate
18 during this time period, I find those questions
19 extremely difficult to deal with at this point in
20 time, and I think we ought to move to the next
21 presentation, and then maybe circle back a little
22 bit more in terms of the kind of discussion we
23 could have.

24 So, Ned, it's still in your shop, but I
25 guess it's Stacey's turn.

1 MR. HELME: Actually, Stacey will get a
2 chance, but I'll have to start unfortunately.

3 COMMISSIONER BOYD: Oh, it does say Ned
4 and Stacey.

5 MS. BROWN: Mr. Chairman, while we're
6 waiting, I want to acknowledge that Jason Mark has
7 joined us from the Union of Concerned Scientists,
8 and John Bennett is also here. John, would you
9 like to come up and join the table, from
10 California Portland Cement, who's joined our
11 Committee.

12 So, I wanted to make sure you were aware
13 of that.

14 COMMISSIONER BOYD: Somewhere in that
15 pile of blue things there are probably name tags.

16 MR. HELME: We might want to stretch . .
17 . I hope this is the right now . . . we're going
18 to need a little break, this is the wrong version,
19 just gives us a moment.

20 COMMISSIONER BOYD: Don't say the work
21 "break." Last time I allowed this group to take a
22 break it took a half hour to round them up. So
23 any break you want just take it on your own.

24 I'm finding this to be the rule rather
25 than the exception at all of these, let's see,

1 this is workshop number 43 or 44.

2 Some people forget the names of their
3 presentations and it won't come up and -- ah,
4 progress, technology.

5 MR. HELME: Okay. This is now a look at
6 the flip side of this, the sort of what are the
7 options for getting at these reductions that we've
8 identified.

9 And I'm going to open by looking at big
10 picture alternatives, and then I'm going to turn
11 to the staff to talk about the specific options in
12 particular sectors.

13 I'll try to move quick, because I see
14 we're a little behind schedule.

15 COMMISSIONER BOYD: Actually, right on
16 schedule.

17 MR. HELME: Are we? Okay, great. A
18 whole set of options for getting CO2 reductions,
19 and I think, once you saw in the earlier
20 presentation, where it really takes efforts in a
21 whole range of sectors, no silver bullet here, no
22 one measure that solves the whole problem, you
23 really have to have a whole set of measure to get
24 there.

25 So this is really a whole set of

1 opportunities or ways to do it, so you can
2 combine, mix and match these. So this is, again,
3 kind of a menu, as Jim said earlier, in the
4 earlier presentation, to give you a sense of the
5 choices we've got to try and get the reductions
6 from the particular sectors.

7 So on the mandatory side we've got
8 technology based kinds of things, sort of like the
9 CARB approach that they've done over the years.

10 Intensity standards and benchmarks.
11 Again, the same kind of idea but more on the basis
12 of carbon per barrel of oil produced, that sort of
13 thing. Cap and trade we've talked about,
14 pollution fees, taxes, those sorts of things.
15 Monitoring and reporting requirements. That's
16 sort of the mandatory side.

17 Then on the voluntary side we've got
18 negotiated agreements, incentive programs, this
19 might be tax credits, payments. In Europe we've
20 had several programs where the government has
21 actually bought the reductions. UK has done this,
22 Netherlands has done this, where they actually
23 just simply paid the farmers to make the
24 reductions that are suggested.

25 We have voluntary programs, we're very

1 familiar with that here in the US. Education. And
2 then the removal of barriers, which we talked
3 about earlier in terms of the kinds of things in
4 the manure management area and the cement area.

5 Let me take you through each of these a
6 little bit, looking at the advantages and
7 disadvantages again, talking about a broad brush.
8 And then we'll go look at it more specifically.

9 Technology base programs. This is like
10 building codes, appliance standards, the kinds of
11 programs that CARB has done over the years.
12 Obviously this gets you to the desired level of
13 technical improvement, it usually impacts the
14 whole sector, so you don't have the problem of
15 some people playing and some people don't,
16 everybody's in if you set a technology standard
17 for a particular sector.

18 Disadvantage, you may not get to the
19 target with a technology approach. You may not
20 get much innovation. If you define the technology
21 and freeze the technology then there's less
22 incentive for innovation, that sort of thing.

23 You're trying to pick winners. And it
24 may be more expensive, sometimes these standards
25 are much more expensive than some of the more

1 flexible approaches.

2 Intensity standard is sort of a
3 variation on technology standards. It's the idea
4 of setting a carbon per barrel of jet fuel
5 produced kind of thing that we've talked about in
6 the petroleum refining sector. Obviously the GHG
7 standards are standards per mile travelled kind of
8 thing.

9 Advantages here, it allows for growth
10 and industrial production but doing that in a way
11 that's more carbon friendly, less carbon
12 intensive. So the technology moves the sector
13 toward a much better carbon picture without
14 stifling the growth.

15 This is very popular as an approach with
16 developing countries because they're very worried
17 about their growth opportunities, yet they're
18 willing to see improvements in terms of the
19 intensity, so it's an attractive approach for
20 them.

21 We can do this to be a benchmark, and
22 apply it to the entire sector. And of course it
23 can have some flexibility as well. You can link
24 an intensity based target, let's say we had carbon
25 per barrel of jet fuel as a part of what we were

1 regulating in the petroleum industry, we could
2 trade across to a hard cap in the power sector.

3 There are ways to link these kinds of
4 programs, it's not like you have to have one size
5 fits all. My main message here is we don't need a
6 one size fits all solution here, there are many
7 combinations you can come up with that gets you
8 where you want to go.

9 Disadvantage of this, it may not get you
10 to the desired reduction target. If you have a
11 particular number in mind, when you go to bigger
12 intensity when there's more growth in the sector
13 you may end up with higher absolute emissions than
14 you wanted with the target, although you'll
15 certainly get a better intensity picture. And as
16 I mentioned, you can trade.

17 Cap and trade we've talked about. This
18 one, you set up a specific cap level, encourage
19 it's cost-effectiveness, encourage it's
20 technological innovation. If the price is high
21 enough, if the carbon cap is high enough.

22 It obviously applies to an entire
23 sector. It doesn't work for all sectors. I note
24 that earlier we were talking about methane, some
25 of these areas where you don't really know what

1 the baseline is. You can measure the credits they
2 generate at a landfill, but it's very hard to
3 measure exactly what the emissions are. So
4 capping a landfill could be kind of a dicey
5 prospect.

6 Same way with biodigesters, same kind of
7 issue. How much would emissions be otherwise? So
8 there are some issues here where cap and trade
9 might not be the way to go, there might be other
10 ways of setting it up that are more responsive to
11 the situation.

12 The other big concern about cap and
13 trade is the uncertainty about cost. I mean, you
14 basically set the goal, what tons you want to get,
15 and then you see what the price comes out.

16 Now, Michael raised earlier in the
17 meeting the idea of a price cap, which is one way
18 to control against that. So you've had a trading
19 program, but at some price you stop trading and
20 you pay the penalty instead of trying to meet the
21 target.

22 Pollution fees, we're talking about
23 taxes here, toll roads, emission fees, etc. These
24 can be advantageous in terms of raising a fair
25 amount of money that would support climate

1 policies, could support technological innovation.

2 This encourages reductions that cost
3 less than the tax, and can be very cost-effective,
4 economists love this.

5 Disadvantage, obviously almost every
6 state in the US it's a political problem, it's
7 very hard to pull off. And again we aren't sure
8 we get to the target with the tax, it might just
9 be you pay the tax and don't get there, so it has
10 some disadvantages there.

11 Monitoring and reporting requirements.
12 This one, we've seen New Jersey has mandatory GHG
13 reporting, obviously Europe does for all of their
14 countries for these major sectors. We've got a
15 number of other areas. Clearly that's got
16 something to do with the petroleum industry,
17 there'd be a usefulness here of knowing exactly
18 what the emissions are in order to build things.

19 The experience with the toxic release
20 inventory has been salutary, where you set a
21 requirement, people disclose, company's reduce
22 their emissions voluntary because of the bad
23 publicity or the sense of that.

24 Helpful in terms of informing consumers,
25 helpful in terms of informing mid-level management

1 companies. It basically sends a signal to
2 companies that this is something important and we
3 ought to be paying attention to it. It sort of
4 motivates and educates all the players. So --.

5 Pretty low cost here. Doesn't
6 necessarily lead to reductions. you don't know
7 how much reductions, but clearly it's a building
8 block that makes the whole program much easier to
9 move forward. Yes?

10 MR. PARKHURST: Ned, do you know what
11 the threshold is for reporting in New Jersey?

12 MR. HELME: I don't. Any of my team
13 know? No.

14 Let's see. Okay, now moving to the
15 voluntary side. Negotiated agreements, New
16 Jersey's had a negotiated agreement with major
17 industries as a way to get reductions on the CO2
18 side.

19 They've created incentives for
20 participating, you get faster regulatory review of
21 your conventional pollutant permits in return for
22 agreeing to a target that you try to achieve on
23 the CO2 side.

24 A very good example of this, the
25 Netherlands has had an energy efficiency

1 benchmarking across all major industrial sectors,
2 where they've gone out and figured out what the
3 best in the world energy efficiency program is,
4 and then specified that as the standard for the
5 sector to achieve over time.

6 Had some success with this in terms of
7 getting energy efficiency, not a carbon intensity
8 target but an efficiency target to try to get them
9 to the best in the world from a competitiveness
10 standpoint.

11 They've done it in the sectors that are
12 internationally competitive, arguing that this is
13 good for the companies and good for the country
14 and good for the emissions, so it's a win win win
15 kind of approach. These targets are negotiated.

16 In the case of the Netherlands they have
17 third party consultants who go out and figure out
18 what's the best process for electric arc furnaces
19 and steel, what's the best process for different
20 chemical production, and then that becomes the
21 standard that is applied and everybody agrees.

22 The companies as a group do it, so the
23 trade association as a group does it, it's not a
24 target for each individual company, the partners
25 in the group all negotiate over who will do what

1 reductions to get to the average.

2 Same things been done with the European
3 car manufacturers agreement. It's a pooling of
4 all the car manufacturers. They all know where
5 they've got to get, the Gram standard, but they
6 all have the ability to do it, one company can be
7 a little higher, one company a little lower, as
8 long as the group as a whole meet the target. So
9 they've had pretty good success with that in
10 Europe.

11 Compliance is mandatory, but again it's
12 compliance for the sector as a whole rather than
13 for the individual companies. And in the case of
14 Europe they have basically the threat of carbon
15 taxes and higher penalties if they miss the
16 target. Nobody's missed the target yet so we
17 haven't seen what that would do.

18 But it's not in the legislation, it
19 doesn't say you'll pay this much penalty, it's
20 just sort of an understanding that that's waiting
21 in the wings if the auto manufacturers don't meet
22 the target they've agreed to, or if the cement
23 industry doesn't meet the target it's agreed to.

24 Disadvantages, there's a self-selection
25 process here that can lead to weak targets. If

1 you have to get everybody to agree sometimes, you
2 know, it's a trade association kind of thing.
3 Good trade associations get the higher targets,
4 poorer ones get the lower ones so it's, you know,
5 a human nature kind of process there. And of
6 course the targets vary in terms of stringency
7 when you turn to that approach.

8 Incentive programs, I mentioned this
9 briefly at the start. Obviously tax credits,
10 California has the renewables reverse auction
11 that's been very successful, where companies bid
12 for the incentive payments for doing the
13 renewables.

14 The other example that I think is really
15 interesting for this group is the UK and the
16 Netherlands. In both cases they've had programs
17 where they have bought, basically reverse auction
18 buying CO2 reductions. The UK did this before the
19 EEU ETS trading system went into effect.

20 Had pretty good success, quite
21 expensive, but basically it was the decision of
22 the Parliament in the UK was this is worth doing.
23 It's hard to do it from a regulatory standpoint so
24 we'll do it by raising the money and paying for
25 the reductions and getting the reductions that

1 way.

2 And we may think about that for some of
3 the sectors we've talked about here where it might
4 be hard politically to regulate, but it might be
5 easier to do this. Of course then the question of
6 the budget and those questions come up.

7 But it's an interesting approach, it
8 certainly changes the economics of emissions
9 reductions, it makes it attractive to companies to
10 make the reductions. And you certainly get some
11 certainty.

12 As you've seen with your reverse auction
13 in renewables, you certainly got a lot of
14 renewables during the power shortages through that
15 program.

16 Disadvantage, it costs the government
17 and the taxpayers. There can be free rider
18 problems where people are getting paid for doing
19 things they would have done anyway, so it may not
20 be efficient as some other approaches.

21 Voluntary programs, we've got the
22 California Registry, EPA's Climate Leaders
23 Program. We've grouped offsets in this group as
24 well, although they're a little different than the
25 first two. In each case they give you a

1 significant compliance flexibility.

2 In terms of the question of offsets
3 we're basically saying okay, we've got a sector
4 where we don't see how we could cap it, it's just
5 politically, -- say the farmers and no-till
6 agriculture.

7 That's not going to probably be
8 something that's going to sell in terms of the
9 politics. It hasn't sold anywhere in the country,
10 the idea of capping farmers for changing their
11 tillage practices.

12 But you might be able to do it as an
13 offset program, where they've got a reward, they
14 get to sell their reductions into a cap and trade
15 program for some other sector.

16 And there are other ways of playing
17 that. You can do it so that you give a portion,
18 so maybe the particular farm gets 100 tons, maybe
19 you give him credit for 50 tons and 50 tons is
20 basically a benefit to the atmosphere.

21 So there are ways to do it so that the
22 sector is contributing to the overall state target
23 but still getting money for a portion of it, as
24 you design it.

25 So there are some ways to design this,

1 again, nuance it, that makes it more attractive to
2 both parties, so you get some benefits for the
3 state and you get some benefits for the farmer of
4 the particular sector that you're working with.

5 Educational assistance, pretty
6 straightforward, this can help us a lot in terms
7 of raising awareness in the public, raising
8 awareness within companies. Doesn't do much in
9 terms of meeting the target, but over time it
10 certainly helps build support for the overall
11 program.

12 And finally, I talked about this
13 earlier, the idea of removing barriers to
14 reductions. And our examples earlier were the net
15 metering kind of idea and the cement blending kind
16 of idea, where a policy change in the state makes
17 it possible to get some pretty cheap reductions.

18 It doesn't require cap or anything else,
19 just requires a move that opens it up. Now there
20 may be some other consequences, as Jan noted, in
21 terms of the net metering side of things, it's not
22 a zero cost sort of option. But it's out there as
23 another way to approach these sorts of questions.

24 So let me turn to the rest of my team to
25 talk about specific sectoral options and then

1 we'll open it up. So let me go to Greg first to
2 talk about transportation.

3 MR. DIERKERS: Okay, these next two
4 slides I'm going to talk about are a couple of
5 slides that have been formed based on a couple of
6 working group, transportation working group
7 subcommittee calls that we've had.

8 I'm going to talk about the broad
9 approach that we have, and then some examples
10 about how some of this would work for the
11 transportation sector. And a lot of this has gone
12 from similar discussions and work that Jason Mark
13 has done. So Jason, if I mis-characterize
14 anything let me know.

15 But these four bullets here are, from a
16 transportation policy perspective, how we might
17 look at implementing some of these reductions.

18 And this first bullet, linking bottom up
19 approaches with broad solution, is really, as was
20 pointed out to me, sort of the inverse of this if
21 you think about it. A broad solution, and then
22 what are the principles contained within that
23 solution.

24 An example here is, if you were going to
25 do statewide freight planning. As part of that

1 you want key components in there, key policies
2 that actually reduce greenhouse gas emissions at
3 all sorts of politically feasible truck stop
4 locations as sort of a component of this, is the
5 example here.

6 Coordinating climate strides to other
7 benefits of improved transportation performance is
8 a pretty important piece of this, looking at air
9 quality independence and petroleum dependence, so
10 there's a lot of the co-benefits that were
11 discussed earlier, as well as a need for short and
12 long-term strategies, which points to the first
13 two bullets a little bit.

14 You need to do immediate action but you
15 also need to build form the long-term in order to
16 have a transformational policy that actually gets
17 you to the stretch goals. Any idea of
18 complementing standards with incentives, and these
19 go back and forth.

20 And these relate to each other. And
21 this first one here is an example of that. If you
22 had a mandatory policy like in Minnesota, where
23 you have a certain percentage of ethanol in all
24 your fuel, it's also helpful to have incentives to
25 promote this.

1 For infrastructure and for shipping
2 costs, as well as vehicle, incremental vehicle
3 prices. Some other examples there, as well as the
4 incentive based approach as well. That relates a
5 lot to vehicle turnover and and fleet turnover, I
6 think there's some opportunities there.

7 The best planning practices is something
8 that New York is doing now, they're looking at --
9 all the metropolitan planning organizations in the
10 state are looking at when they do their
11 transportation plans, their long-term plans, they
12 look at how they're trying to integrate greenhouse
13 gas goals in to that.

14 So if you have a VMT reduction target,
15 what are the greenhouse gas implications of that.
16 So it's looking at all your transportation
17 decisions and your transportation investments and
18 how do the greenhouse gas reductions, what are the
19 benefits from that.

20 So it's sort of linking those two, the
21 traditional planning practices with greenhouse gas
22 reductions.

23 Yes, Robert?

24 MR. PARKHURST: Has anyone measured the
25 VMT increase in freight transport since 1990?

1 MR. DIERKERS: It's growing
2 exponentially. It's expected, a 70 percent growth
3 by 2020 for heavy duty trucks, roughly. So it's a
4 pretty significant piece of the emissions pie.

5 And that's why a lot of these measures
6 are freight measures, which is an opportunity for
7 for vehicle efficiency as well as stemming that
8 growth by using freight rail and other, more
9 efficient roads.

10 MR. PARKHURST: That's 70 percent
11 between one and one?

12 MR. DIERKERS: It's roughly by 2020.

13 MR. PARKHURST: Based on 1990?

14 MR. DIERKERS: Sort of based on fuel use
15 projections from the Energy Efficiency
16 Administration's AEO study.

17 MR. PARKHURST: What's the base year?

18 MR. DIERKERS: The base year, with a
19 base year of 2005.

20 MR. PARKHURST: Okay.

21 MR. DIERKERS: And so the last bullet
22 here is what we talked about earlier. For
23 transportation especially, with infrastructure
24 investments. When you look at just greenhouse
25 gases the dollars per ton are astronomical, so

1 looking at sort of a ranking system for co-
2 benefits is a helpful approach.

3 There are a number of other benefits of
4 petroleum savings and criteria pollutant
5 reductions and ACEEE's green score doesn't capture
6 all of these but it's one example that we brought
7 up on a recent call that we might look at as a way
8 to prioritize the different co-benefits that go
9 into the transportation decisions that we're going
10 to make.

11 So those are the two, and then Jason's
12 going to talk about this in a little bit more
13 detail in the afternoon I believe as well. Any
14 other questions? I'll turn it over to Gordon.

15 MR. SMITH: Okay, we've covered a lot of
16 these issues already, so I'll just highlight a few
17 points.

18 Josh asked how good are these cost
19 estimates? And the response was well, they're
20 probably better than an order of magnitude off.

21 And that I think is especially important
22 if you were to pursue a cap and trade program,
23 because the costs vary, and benefits vary,
24 tremendously from place to place.

25 And a flexible program such as cap and

1 trade will allow landowners to look at their own
2 situation and choose and get the high value cheap
3 tons, whereas requiring a technology would not do
4 that.

5 And there's also some issues about some
6 of these technologies are relatively expensive,
7 relative to the value of the land and the other
8 operations, and this might not be desirable public
9 policy to pursue.

10 Such as if you were to require farmers
11 to switch to no-till that requires different
12 tillage equipment, different cropping equipment,
13 and a totally different way of managing, which
14 requires learning how to do your business
15 different.

16 And if a farmer chooses to do that they
17 might be able to do it quite inexpensively. If
18 they're forced to do it they're going to point out
19 how expensive it is.

20 Another issue here is baselines. If
21 you're doing project level analysis you have to
22 set a baseline. And that can be, your baseline is
23 what would have happened in the absence of the
24 project.

25 And the most objective way to do this is

1 to look at what happens on other lands and say
2 that the trend on other lands is the trend that
3 you get for your baseline. But it's non-trivial,
4 it can be very expensive, and in many systems it
5 can be gamed. So that's something that you should
6 pay very close attention to.

7 Another thing that is very important
8 from a policy perspective here is who gets to
9 claim sequestration in wood products and the
10 material that's landfilled.

11 A couple of months ago I was on a panel
12 at a national greenhouse council with a guy from
13 Weyerhaeuser, their lead person on this. He said
14 Weyerhaeuser would be happy to take a cap for its
15 lands.

16 And I didn't grill him on this -- and he
17 said because we think that we would have credits
18 to sell, and that would be an economic plus for
19 us, better than where we are now. We'd win.

20 My assumption, if I look at their land,
21 and my guess is that he's counting on that there
22 would be a policy decision that the landowner
23 would get to claim all those tons of wood fiber
24 that get put on landfills. The landfill owners
25 might wish to claim that, so that would be a

1 policy decision.

2 We've talked about different sorts of
3 systems. Private purchases versus a public
4 auction, we've already covered this. Something
5 that I'd like to point out for these land-based
6 systems is, you can estimate sequestration and
7 emissions using models, and it's sort of reliable
8 but not really reliable.

9 If you really want to know what's going
10 on you need to measure it. Measuring is
11 expensive, generally. We're working on getting
12 the cost down, and if you're already doing
13 resource inventories it can add not too much,
14 but --.

15 Not a bad number, based on Winrock's
16 experience, environmental resource trust
17 experience, is it can easily cost you \$10 or \$20
18 thousand bucks to go and do a good measurement,
19 and you need to do it every several years.

20 So to get the cost per ton down you need
21 to spread these costs over a large number of tons.
22 These costs are not linear with the size of the
23 area being measured. Basically it's a minor
24 effect.

25 So increasing the area by a factor of

1 ten might only double the cost of measuring. And
2 what this gets back to is if you're trying to keep
3 the cost down to some reasonable measure, like a
4 buck or two or less than that, you're looking at
5 only regulating large ownerships.

6 So what does this mean in the forest
7 sector? We did not do this analysis for Ag. What
8 if you say we're only going to address people who
9 own more than 1,000 acres of forest land in
10 California. That would be about 1,000 owners.

11 These are old numbers, and land
12 ownership nationwide is fragmenting, so this
13 number will be smaller now. And you're getting
14 about 40 percent of the private forest land with
15 1,000 owners. And that's private forest.

16 What if you can get public forest?
17 There's 23 million acres of public forest. And if
18 you could involve a few dozen, probably more like
19 a few public owners, you can probably get most of
20 that 23 million acres.

21 Now if you can get the feds to play,
22 that will be quite an impressive feat.

23 Agricultural approaches, we ended up
24 only looking at no till, because the other options
25 -- there was either no data for making reasonable

1 guesses at cost and amounts, or the numbers looked
2 pretty small.

3 If you choose to include no till, as Ned
4 pointed out, you might want to do an opt in
5 system, because of the difficulties of making the
6 switch. You also might want to wish to consider
7 using a model to estimate benefits rather than
8 requiring people to go measure.

9 Yes?

10 MR. HEALD: Thank you for that. Just a
11 brief comment. California already has an
12 established baseline, because they have a registry
13 for forests and a processing place to deal with
14 that. So some of those hurdles have already
15 been --

16 MR. SMITH: It has a system which is --
17 correct me if I'm wrong -- a voluntary opt in. So
18 anyone who is already participating in that system
19 would have a baseline under that system, assuming
20 you choose the amount when they started
21 participating as their baseline.

22 So that the protocol is there, and does
23 anyone know -- my understanding is they have not
24 yet entered forest land ownerships in the clean
25 air registry.

1 Can anyone correct me? Am I wrong on
2 that?

3 COMMISSIONER BOYD: The registry's out
4 there.

5 MR. SMITH: Yes. Are there currently
6 forest land ownerships in the clean air registry?

7 MS. PULLING: Yeah, Edison and PG&E are
8 both private landowners, so we're both in the
9 registry. And I think Mendocino Redwoods is in,
10 so --.

11 And there is a forestry protocol.

12 MR. SMITH: There is a forestry
13 protocol, which is what Bob was saying. There is
14 a method there for doing accounting.

15 MR. HEALD: And it does establish a
16 baseline, and there are several companies in the
17 system, and many more with substantial numbers of
18 acres that are working on making submissions. So,
19 essentially ready to go.

20 MR. SMITH: And there's somebody else
21 with a comment back there.

22 COMMISSIONER BOYD: We need you to come
23 up to the microphone.

24 MR. MCCORMICK: Hello, I'm Mike
25 McCormick with the California Climate Action

1 Registry. The utilities that are members of the
2 registry at this time, with forest holdings, do
3 not at this time actually take an inventory of
4 their biological resources.

5 So there is the stationary combustion
6 inventory, but not for their forest lands. And
7 other than those utilities we do not have any
8 forest companies that are members, but we are
9 actively seeking those.

10 MR. SMITH: Thank you for the accurate
11 information on that.

12 COMMISSIONER BOYD: If I might ask
13 Cynthia a question while we're on the subject of
14 no till, Cynthia, do you have any idea -- and this
15 may be an unfair question, but you're the only ag
16 person I can identify in the room -- how much no
17 till might be going on in California?

18 And the only reason I ask that is,
19 recently driving up I-5, and although they don't
20 have billboards they do have those empty cotton
21 cars full of advertising about everything
22 conceivable.

23 And there's a huge new one I saw last
24 weekend about the ag community and no till farming
25 for air quality benefits and what have you, and

1 I'm just kind of curious about how extensive this
2 has gotten?

3 MS. CORY: I don't have an acreage
4 number for you, it is limited, there is a group
5 working with the university, with the Kern Soil
6 Foundation, trying to encourage it.

7 In fact I just missed a workshop that I
8 wanted to go to a couple of weeks ago where they
9 were highlighting some farmers. But I am starting
10 to work with them and seeing what we can do.

11 Ironically enough, when I think of
12 sequestration in California I always try to think
13 of the crops that aren't like the Midwest, because
14 we don't grow a lot, you know, we grow some corn
15 for silage purposes but we don't have the
16 soybeans, and millions of acres of soybeans and
17 corn like the Midwest does.

18 And that's why all the sequestration is
19 happening and all the no till is happening. I
20 think about all of our orchards and our half a
21 million acres of almonds we've got up and down the
22 valley.

23 And part of the complexity of this is
24 that, until two or three years ago, you could say
25 that those orchards were no till. But because of

1 the burning situation we have now in the Valley
2 they are chipping and they have to incorporate
3 into the soil the chipping now.

4 And so where I had these guys that said
5 hey, I had a lot of no till, I had hundreds of
6 acres of almonds that were no till, now they're
7 being tilled to deal with the burning.

8 So it is limited, but the cotton, cotton
9 is something that a group of people are looking
10 at. But the number of field crops are limited in
11 California because we just don't have that many
12 field crops.

13 MR. SMITH: A little bit more
14 information on that. Nationally the number -- and
15 I think this is no till, sometimes they lump what
16 they call conservation till, which is a limited
17 amount of tillage -- I think is 17 percent. And I
18 think that's just no till, nationally. I don't
19 know how California varies from that.

20 And the area under no till has not
21 really been increasing over the last five years,
22 and I think there even might have been a small
23 decrease. However, there are some new technologies
24 for how to do this and so that number may go up,
25 because over time it can reduce a farmers costs,

1 which is the major incentive there.

2 MS. DAVIS: We're going to skip over
3 some of the sectors that we've talked about at
4 previous meetings and go to some that we haven't
5 talked about as much, including the industry
6 sectors, such as the semiconductor industry.

7 A key consideration, and I apologize for
8 getting the date wrong, is that this sector does
9 have a national and an international commitment to
10 voluntarily reduce it's emissions to ten percent
11 below 1995 levels by 2010.

12 And an obvious way to think about this
13 sector would be to extend this same commitment,
14 either on a voluntary or a mandatory basis, to
15 California.

16 Another alternative would be to make
17 this approach linked with a cap and trade system
18 in California. For example, you could keep it
19 voluntary and let this sector get credit for
20 emissions reductions that it does beyond the
21 voluntary commitment, but not penalize it for
22 things that, if it doesn't quite reach the
23 commitment goal. So those are just some initial
24 ideas for this sector.

25 MR. PARKHURST: The other thought in

1 here that you might want to factor in is the R&D
2 side of it, considering making an exemption or
3 other considerations for R&D, because I don't
4 think that's something that we'd want to leave
5 California, since that's such a key to many
6 businesses in my neck of the woods.

7 MS. DAVIS: On petroleum refining, Ned's
8 already talked about one key issue on this sector,
9 which is a lack of data. We don't have good data
10 at the facility level in California whatsoever.
11 We do have some overall data for the state.

12 And it would help to have information,
13 especially for some of the policy measures, that's
14 pretty specific about the fuels that go in, the
15 fuels that come out, making sure that the hydrogen
16 process is captured and that's not currently
17 reported even at the state level.

18 And we don't have information on the
19 cost-effectiveness of specific measures for this
20 sector, so there really are a lot of data gaps.

21 The other issue that I'll mention here
22 is prevention of leakage. We've identified the
23 possibility that, one option that the petroleum
24 refining sector might use in order to comply with
25 a mandatory approach of any kind would be to shift

1 the kind of fuels that it produces.

2 And while, it turns out that some of the
3 cleaner and lighter fuels that are used in
4 California are actually more intensive to produce
5 at the refinery and require more energy, which
6 is -- so while it will reduce emissions at the
7 downstream level for the transportation and other
8 end users of the products, the actual emissions at
9 the refinery go up when they're making these
10 cleaner fuels.

11 So if the refinery chooses to comply
12 with the requirements by switching fuels, and
13 therefore more of the clean fuels will be produced
14 out of state and there'd be more transport of
15 products back and forth, you may have leakage out
16 of state and actually not achieve the emissions
17 reductions that you had intended.

18 So that's something that we would want
19 to avoid through policy design with this sector.

20 MR. CAVANAGH: And how would you do
21 that?

22 MS. DAVIS: Well, we'll get to that on
23 the next slide.

24 MR. CAVANAGH: Can I just also ask you,
25 the last data, is that sufficiently severe so that

1 you have trouble designing a cap for the petroleum
2 refining sector right now?

3 MS. DAVIS: It is right now.

4 MR. CAVANAGH: Okay.

5 MS. DAVIS: So one of the policy options
6 that we might consider for this sector would be
7 mandatory emissions reporting. There is,
8 obviously, through the registry voluntary
9 reporting program. There is little participation,
10 I think only BP is participating in that registry
11 right now, although correct me if I'm wrong.

12 Mandatory emissions reporting would help
13 in terms of getting the data that would be needed,
14 either to regulate or to think bout even more
15 targeted voluntary or incentive based approaches.

16 COMMISSIONER BOYD: Well, not addressing
17 the reporting requirement, and just a personal
18 reflection, or a reflection predicated on being
19 around too long -- since we can't even meet our
20 demand for cleaner burning fuel in this state it's
21 highly unlikely in my mind that there'd be any
22 shift internally in terms of the product slate
23 that any California refiners are producing.

24 I think, like it or not, they're going
25 all out to meet the need for California's cleaner

1 burning gasoline, and they've been at it for quite
2 a number of years now. But that's just an
3 observation.

4 I know the oil industry's out in the
5 audience, and they may want to comment, or maybe
6 Denise might want to comment, I'm not sure.

7 MS. MICHELSON: Denise Michelson with
8 BP. The fuel switching is going to be very, very
9 difficult from the standpoint of what Commissioner
10 Boyd mentioned, that the refineries right now are
11 making the cleaner burning fuels that are required
12 by mandate in the state, and I don't know
13 necessarily that you can get those types of --
14 they call them boutique fuels -- from the other
15 areas into the state.

16 And so, for the foreseeable future I
17 think the fuel slate is relatively stable.

18 COMMISSIONER BOYD: We don't call them
19 boutique fuels, but that's just a personal
20 preference. Mr. White?

21 MR. WHITE: John White from the Center
22 for Energy Efficiency and Renewable Technologies.
23 I'd like to go back to the earlier slide about the
24 higher energy costs, or higher energy inputs
25 required for the cleaner fuels.

1 And I wonder if there are technologies
2 available to increase the efficiency. That's one
3 question, because the assumption that we're going
4 to have dirtier fuels produced in California to
5 met greenhouse caps I think is silly.

6 And I think it's more likely that we'd
7 look to reduce the emissions, greenhouse gas
8 emissions, from the refineries through
9 improvements and modernization in the refineries.

10 So I wondered if you had any sense of
11 the options available for that?

12 MS. DAVIS: Unfortunately I don't have a
13 good sense of the suite of options available. We
14 looked for that kind of information. I know that
15 there are some energy efficiency measures that
16 could be done, and of course CHP is something that
17 could be done.

18 MR. WHITE: Well, in effect, all
19 refineries I believe had a significantly greater
20 amount of CHP going on than in other parts of the
21 world, in part because some of them are newer. I
22 don't know if Mr. Sparano might have some comment,
23 but I'll leave it to him to maybe respond to that
24 question.

25 COMMISSIONER BOYD: Before Joe speaks,

1 let me just comment that I know the Energy
2 Commission has done quite a bit of work on energy
3 efficiency in refineries, predating my arrival
4 here. The PIER program I think has done quite a
5 bit of work, and through the Center at USC, PEEC I
6 think it's called, that the USDOE established, I
7 think there's been a lot of work.

8 And some of the multiple hearings that I
9 referenced earlier, there's been quite a bit of
10 discussion of energy efficiency in refineries. we
11 always welcome more, but anyway, I should let Mr.
12 Sparano comment.

13 MR. SPARANO: Joe Sparano from the
14 Western States Petroleum Association. The notion
15 of shifting a product slate from light, clean
16 products to dirtier products to achieve greenhouse
17 gas emission improvements, I agree with Mr.
18 White -- might be the first time in awhile, John -
19 - but I agree with Mr. White completely that
20 that's a silly notion and one that should not be
21 considered by this group.

22 Because right now, as was said, the
23 industry is producing at record levels the maximum
24 amount of the cleanest burning fuels on earth, as
25 are mandated, and as have been produced for quite

1 some time.

2 There's an additional reason, and that
3 is the types of processes that refiners in this
4 state have invested in, to the tune of about \$7
5 billion, to upgrade crudes into the lightest
6 possible products. In order for investors to get
7 a return that has to continue happening.

8 And those facilities outside our state
9 don't necessarily have that equipment in place
10 because they haven't been required, or they have
11 elected not to make those investments. And it is
12 unlikely that we would get a sufficient amount of
13 replacement product in here.

14 And that brings the other issue that I
15 really wanted to mention, which is, it's come up
16 here before, California's infrastructure for
17 petroleum, at the marine level and other modes of
18 transportation, right now is barely keeping up
19 with our needs while we're producing record
20 amounts of light products.

21 So I think this is one area that really
22 needs close further examination before anyone gets
23 the idea that the prevention of leakage approach
24 would be a good idea for the state of California.
25 I think it would not.

1 MS. DAVIS: Thank you for those
2 comments. This is just one of several compliance
3 options that we imagine could happen, and to the
4 extent that it doesn't happen then you can look at
5 a broader suite of mandatory control options as
6 part of the options that we consider here.

7 COMMISSIONER BOYD: Stacey, there's
8 another question here at the table, but you just
9 said something very important. We're just looking
10 at a broad menu of options, and the more knowledge
11 we pick up in conversations like this, put them in
12 their proper perspective. John?

13 MR. WHITE: Yes, I wondered if anyone
14 would care to comment on the reasons for the oil
15 companies lack of participation or unwillingness
16 to participate in voluntary reporting, whether
17 that's a trades secrets issue or just a ingrained
18 resistance to voluntary reporting.

19 MS. MICHELSON: BP voluntarily reports,
20 and we're a member of the California Climate
21 Action Registry. And I think, on behalf of my
22 brethren in the other oil companies, we do have,
23 under API, I think the API representative can
24 address this, an internationally accepted protocol
25 for the oil and gas industry to inventory, measure

1 and track the greenhouse gas emissions.

2 So those types of efforts are underway.
3 Unfortunately, I don't know the reason why other
4 oil companies are not self-reporting into the
5 California Climate Action Registry.

6 MR. JONES: Russell Jones, the American
7 Petroleum Institute. We've had underway, since
8 the late 1990's, an effort to develop the
9 methodology that Denise mentioned, the API
10 compendium for greenhouse gas emission estimation
11 focusing on the oil and gas industry.

12 When you're looking at strictly fuel
13 combustion that's reasonably straightforward,
14 although there are some issues. But oil and gas
15 facilities have a lot of unique issues with regard
16 to estimating emissions.

17 We have, under our climate action plan,
18 which I may be able to refer to later today, have
19 pledged, our members have pledged to report their
20 emissions to us. We're going to aggregate them,
21 evaluate them, and then with the second year of
22 data we're sure is consistent, start publicly
23 reporting them.

24 But API over the years, API's been a
25 longstanding organization, has discovered that,

1 with almost every survey we start up with there
2 are significant startup problems, and there's
3 probably a 50 percent probability that the first
4 years' data, regardless of the effort we're
5 putting in to this, may not be usable.

6 So I think that has been one reason. We
7 have been working with the Department of Energy
8 EIA on their six general 5B program, trying to
9 ensure consistency across various methods.

10 We've done a lot of protocol
11 comparisons, with EIA's protocol, the IPCC
12 protocol, the WRI protocol, a lot of other
13 protocols, and there is in fact a lot of
14 inconsistency across those protocols.

15 So we are working both with
16 international organizations to come up with a
17 consistent method that meets the needs of whatever
18 registry, however vigorous people are talking
19 about.

20 So it's an area that has been on a long
21 going effort, but I'm not sure we're there yet in
22 terms of a real detailed consistency. The
23 company's are making big efforts. Chevron has
24 developed software that goes with the compendium.
25 We're making it available on our website.

1 You can download the compendium from our
2 website, you can download our compendium document,
3 but going through the 1605B comments with EIA this
4 year, it's clear that this is going to be an
5 evergreen document, and as we go forward we will
6 learn things and we'll have to change this and
7 we'll have to revise things.

8 So it is an ongoing effort.

9 MS. DAVIS: Just to move into some of
10 the policy approaches that might be available to
11 reduce emissions in this sector. Technology based
12 approaches are a possibility, but I think you'd
13 need a lot more detailed information on this, and
14 certainly a lot more information than we currently
15 have on this sector in order to look at what
16 technology based approaches might be viable for a
17 particular facility.

18 A cap and trade program is another
19 option, both at the upstream or the downstream
20 level, and upstream approach would essentially
21 limit the amount of carbon in the fuel content.

22 And the downstream program would focus
23 on the emissions produced by the sector. Either
24 one is a possibility for controlling emissions
25 from this sector, however an upstream program has

1 the advantage of being more comprehensive.

2 You're including all of the emissions
3 from petroleum products, except for -- well, all
4 the ones that would be emitted downstream through
5 an upstream control approach. And it has low
6 administrative costs since you're only regulating
7 a handful of sources.

8 It does rely on pricing those to change
9 consumer behavior, and the question is to how well
10 such a program would do that. And it also might
11 function like a quota on fuel which also might not
12 be popular.

13 Under a downstream program, if you don't
14 have a risk of leakage that certainly is a viable
15 possibility for the sector.

16 One option that I want folks to consider
17 for this sector is the use of benchmarks, which
18 could help address leakage. It also helps address
19 the issue that petroleum refining may not want to
20 be held responsible for the emissions that would
21 be taking place downstream in the growth and
22 demand for their product.

23 And a benchmark could be done using any
24 number of different metrics in terms of emissions
25 bringing an output. The output could be defined

1 in a dollar value, it could be defined in terms of
2 the number of barrels of product or the mass or
3 energy content or carbon content of that fuel.

4 Emissions per dollar might be the least
5 useful approach given the fact that the dollar
6 value of the fuel outputs have been varying
7 significantly recently, and that may not have much
8 of a relationship to carbon emissions whatsoever.

9 The other approaches could all be
10 viable, emissions per the carbon content might be
11 something that we might want to focus on, given
12 that that would also tend to favor the lighter
13 fuels which are already favored in California and
14 would be least likely to create any problems with
15 leakage to the extent that we believe that that
16 could be a factor.

17 The approach, using a benchmark approach
18 generally is relatively simple. You don't need to
19 go into a lot of the details in terms of what the
20 fuel inputs and fuel outputs and processes are at
21 specific facilities, you just need emissions
22 numbers and you'd need the output number.

23 A disadvantage though is that some
24 emissions could be missed if you simplify too much
25 and only include a few different fuel types you'd

1 be missing maybe ten or 15 percent of the
2 emissions produced by the sector.

3 Beyond mandatory approaches there
4 certainly are a number of incentive and volunteer
5 approaches that might be used, either
6 independently or in conjunction with the mandatory
7 approaches.

8 And I have a question to pose to the
9 industry, I'm not sure the extent to which some
10 barriers to refining capacity affect efficiency.
11 I don't know if NSR, for example, affects fuel
12 turnover or capacity and efficiency of units.

13 And if so whether it would be useful to
14 think about ways to overcome those barriers. Also
15 there might be a role for incentives to encourage
16 advanced technologies. In particular we had in
17 mind incentives to encourage use of non-virgin
18 captured carbon enhanced oil recovery instead of
19 using virgin carbon.

20 But there could also be incentives for
21 CHP or other advanced technologies that might be
22 available.

23 And then a final question for the
24 industry is what is the impact of encouraging bio
25 fuel on refining emissions. Is that a win for the

1 refining industry too or is there more that we
2 need to look in to that.

3 And then the last sector that I was
4 going to talk about was landfills. Due to the
5 measurement difficulty that we talked about
6 earlier, we think a cap and trade, it would be
7 difficult to do a cap and trade program for this
8 sector in the traditional way since we don't have
9 good data on the total emissions. We have good
10 data on the reductions, but not the emissions.

11 But other mandatory approaches would
12 certainly be viable for these technology based
13 approaches where the gas capture systems are in
14 place and we can measure the emissions reduced, a
15 voluntary credit based system seems to be very
16 technically viable.

17 We would want to address issues related
18 to additionality. There eis a possibility that --
19 we want to avoid encouraging, or giving credit for
20 things that would already be required under the
21 landfill rule for example, or things that are
22 already being done.

23 There is also the possibility that a
24 voluntary program may not capture all the
25 emissions associated with the sector in

1 considering there are a lot of cost-effective
2 reduction opportunities here you may not want to
3 designate it as a completely voluntary approach.

4 A third way would be some kind of a
5 hybrid, and there's still some issues as to how it
6 would work. But you could develop an emissions
7 cap and trade program for this sector that's based
8 more on averages, in terms of how you define the
9 cap, and then use the credits that would be earned
10 through the reductions that are well measured to
11 give you reductions against that cap.

12 And we'd need to think more about how
13 that would work and whether that provides all the
14 right incentives.

15 But those are the thoughts we've had so
16 far on these sectors. And I'm not going to talk
17 about natural gas systems, that's a fairly small
18 share of the overall total inventory.

19 Do you want me to do the conclusion?
20 All right, in terms of the policies that we've
21 looked at it looks like broad-based participation
22 and use of mandatory approaches will increase the
23 likelihood of meeting an emissions target since to
24 the extent that we use the mandatory approaches
25 we're more likely to get there, but it's not one

1 size fits all.

2 Some mandatory and voluntary approaches
3 are better suited for some sectors than others,
4 both technically and politically. And the
5 measures can be used alone or in combination,
6 combining the measures might create some synergies
7 in reducing industry resistance, especially if
8 you're overcoming some of the barriers along with
9 the mandatory controls.

10 As next steps we're looking for feedback
11 on all of these policy issues and approaches that
12 we've identified to date, and we've received some
13 so far and I expect we'll receive quite a bit
14 more.

15 We still need to evaluate policies for
16 the power sector, and we'll be doing so through
17 the NIMS modeling process. And we want to
18 integrate transportation with some of the other
19 state programs.

20 COMMISSIONER BOYD: Thank you,k Stacey,
21 any other questions or comments on this
22 presentation? Luckily this group is not reluctant
23 to ask questions at any point in time. Wendy?

24 MS. PULLING: Just a quick question on
25 your proposed timing for the power sector analysis

1 -- and I apologize, I may have missed a couple of
2 calls on this.

3 But what's your projected timeline?

4 MS. DAVIS: It's hard to say at this
5 point, but we're meeting on Wednesday at an all
6 day meeting to talk about the reference case, and
7 we had run an initial reference case and there's
8 still some issues with it in terms of consistency
9 with what the state already believes is happening
10 and in terms of consistency with existing
11 policies.

12 So we're making a few refinements to
13 that, and we want to, hopefully in the next couple
14 of weeks, have resolution over those issues and
15 some consensus on the set of assumptions that
16 we'll go ahead with, so that we can start with a
17 final reference case and actually get to the
18 policy one.

19 MS. PULLING: Thank you.

20 COMMISSIONER BOYD: Any other questions
21 or comments?

22 All right, that was a spirited
23 discussion, now we've lost time, so --. But
24 that's to be expected.

25 So, the next item on the agenda was to

1 begin to break in to reports from the various
2 subcommittees. I don't know, Susan, if this group
3 drew the short straw or whether it's purely
4 random, but the crosscutting subcommittee's got
5 first ups here anyway. And that's Josh Margolis
6 and Peggy.

7 MS. BROWN: We thought we'd start with
8 the multi-sector economy wide issues first. So
9 with that I'd like to ask Josh to take the lead
10 and Peggy, the two of you to engage us in a
11 discussion.

12 MR. MARGOLIS: And I think that's what
13 we're in, we're in a discussion at this point as
14 opposed to a point where we can lay conclusions on
15 the table and say this is the way to go.

16 Just a moment, the cross-cutting sector
17 committee was established I think to take a step
18 back from each of the individual microcosms that
19 were being available -- cement, semiconductor,
20 agricultural, industry, transportation -- take a
21 step back and say, look the problem that we're
22 talking about, the greenhouse gas problem, the
23 opportunities, are not, the problem itself is not
24 one that's endemic to a particular industry and
25 the opportunities are not particular to a

1 particular sector.

2 And that there may be wisdom in taking a
3 step back and looking at strategies, alternatives,
4 that cut across a number of different sectors, a
5 number of different industries.

6 And our mission, as we were charged, was
7 to take a look at some of those strategies and
8 decide if, think about whether or not this
9 greenhouse gas opportunity target that the
10 government has established, that has been charged
11 with, that this committee has been charged to
12 evaluate, if it's something that should be
13 evaluated on a sector by sector, industry by
14 industry, or perhaps there are multi-sector
15 strategies.

16 And that's how we got going. We did get
17 going rather late, so I think what we have is some
18 agreement on a limited range of topics, but we
19 also have significant discussions that are still
20 going.

21 And I'd like to talk about the
22 discussions that led us to where we are now with
23 respect to one particular cross-cutting strategy,
24 which is the cap and trade program. And I think
25 Peggy has some ideas on the challenges of pursuing

1 that if it's multi-sectoral. And I welcome input
2 from the rest of us who were participating in that
3 discussion.

4 We did look at a number of different
5 strategies -- education, feebates, voluntary
6 agreements, all the things that Ned and Stacey
7 laid on the table, to a limited degree. But again
8 our discussion time was concentrated, so we ended
9 up saying well, it does seem that there's a
10 groundswell of opinion that a strategy that has
11 been pursued elsewhere that is going to gain
12 attention here as well is a cap and trade program.

13 So we thought about whether or not a cap
14 and trade program would have application, and we
15 thought about the different elements, the
16 principles of a cap and trade program. And we
17 endeavored to capture those on the paper that was
18 handed out.

19 We didn't come to the conclusion that
20 the cap and trade program is the way to go. We
21 did come to the conclusion that a cap and trade
22 program -- and again this is speaking for the
23 folks who got there -- that a cap and trade
24 program is the way to go if, and this sounds silly
25 to say, if it's the best alternative out there.

1 If there are no better alternatives that
2 allow you to A, capture the greenhouse gas
3 emission reductions that you need, the goals that
4 you need; if there are no cheaper alternatives; if
5 there are no more efficient and effective
6 alternatives; if there are no more equitable
7 alternatives, this is a fine way to go.

8 I mean, you don't pursue a cap and trade
9 program with all the effort that it takes to make
10 it hatch and happen unless it is the best
11 alternative out there. And one way to arrive at
12 that conclusion is to look at all the other
13 alternatives.

14 And I think you might get there if you
15 conclude that, if the any weight tons that we're
16 talking about through the measures that have
17 already been agreed to, or that are already being
18 pursued, if those are not enough to reach the
19 goal.

20 You might get there if you conclude that
21 the greenhouse gas targets that the Governor
22 established and that may be established by other
23 politicians and policy makers moving forward, if
24 you conclude that those targets are real and that
25 they're not something other than mandatary.

1 If they are real and they are mandatory
2 then you need to figure out a way to achieve that,
3 to achieve those targets.

4 You might come to the conclusion that a
5 cap and trade program is the way to go if you can
6 identify costs that are going to be imposed upon
7 sectors, and I think that through this morning's
8 discussion we saw costs ranging from zero to
9 \$1,500 per ton that could be imposed.

10 Not are going to be but could be
11 imposed, depending upon the decisions that are
12 made by policy makers.

13 And implicit in that is that there are
14 different costs associated with different
15 alternatives. If our policy makers are wise
16 enough they'll choose the least cost alternatives
17 and they'll simply mandate them and everything
18 will be well and good because we'll achieve the
19 least cost solution with the most effective
20 results, which is going to lead us to achieving
21 the targets.

22 As we've seen, however, in the past with
23 environmental goals it's not always easy to
24 determine the least cost alternatives and the most
25 efficient solutions. A cap and trade market based

1 program is a way of achieving that.

2 If the targets have to be achieved, if
3 failure is not an option, then it makes sense to
4 consider a program that allows the market to
5 choose the best solution. Where we I think may
6 have diverged is whether or not the cap and trade
7 program, if it's pursued, should be multi-
8 sectoral.

9 If you look up the tables that Ned and
10 Stacey and company laid up there you saw different
11 costs by different sectors by different
12 industries. It seems prudent that, before you
13 launch into a solution which says we're going to
14 have ag do this, semiconductors do this, cement do
15 this, that if there are different costs per sector
16 it doesn't make sense to force one sector to pay
17 three times what it costs another sector to pay.

18 And if the market can ferret out the
19 least cost solution it makes sense to consider
20 whether or not the market should have a role in
21 that.

22 I think that that's the essence of where
23 we got to. If I haven't quite captured the
24 discussions that we got to so far, and the
25 conclusions we got to so far, Denise, other folks

1 who participated, now's your chance. Peggy, I
2 know you have some different, some other
3 viewpoints as well on what we concluded.

4 MS. DUXBURY: I think you did a good job
5 of summarizing it. I think, when you look at a
6 cap and trade program for a single state it
7 becomes much more challenging than when you look
8 at it as a national program.

9 And as a company Calpine supports
10 legislation at the federal level that does impose
11 a cap and trade program on the power sector
12 specifically, and more recently we supported some
13 efforts in the context of this energy bill in the
14 US Senate that Senator Binghamton and Senator
15 Domenici were looking at, trying to do a more
16 economy-wide program.

17 I think the biggest concern that we have
18 in looking at a cap and trade, California
19 specific, does get back to the power sector. And
20 perhaps this is a conversation for the next
21 committee report.

22 But you could meet all the criteria that
23 you set forth that does do most of what you said
24 in designing a very effective cap and trade
25 program, but if that just allows you to sort of

1 export your carbon emissions you haven't really
2 done what you've ultimately set out to do.

3 And that is particularly a problem
4 within the power sector, I think. And I think
5 it's going to be an issue that, for the next
6 couple of years, we're going to be struggling with
7 how do you accomplish that.

8 So I think we're still looking at how do
9 you -- because as a company we support this idea
10 of using a market approach like this -- how you do
11 it at a California level and still accomplish your
12 overall goal, which is reducing CO2 emissions, not
13 just in California but globally.

14 MR. MARGOLIS: I think I neglected to
15 mention one of the very important principles,
16 which was it's desirable to include not just
17 multi-sector but multi-region, desirable to
18 include the entire country, if not the west then
19 the entire country, if not the entire country be
20 part of a global solution.

21 Because that's where you're going to get
22 the least cost solutions, because that's a way to
23 deal with the concept of leakage to ensure that
24 you're not just pushing costs or absorbing costs
25 from one sector and pushing your high cost out of

1 state and not really solving the problem.

2 So I think there was a consensus that
3 the broader the market, the broader the sectors, a
4 well designed program will be able to then most
5 effectively operate within that criteria, and
6 within those set of boundaries, to come up with
7 the best solution.

8 It doesn't mean that everybody's in a
9 cap and trade program. It doesn't mean that
10 everybody who has greenhouse gas emissions
11 increase or who has a quantity of emissions that
12 they're contributing is in the cap and trade
13 program, it doesn't mean that everybody has the
14 same level of reductions, it doesn't mean that
15 everybody suffers through the same costs or has
16 the same opportunities.

17 It just means that these are, this idea,
18 this cap and trade program, it merits
19 consideration. A number of different questions
20 were addressed, well actually were deferred. We
21 came up with a number of different questions that
22 need to be addressed in considering a cap and
23 trade program.

24 And those questions were listed in the
25 back of the subcommittee report. But we

1 steadfastly resisted the pressure to tackle each
2 of those questions.

3 For example, who's in, who's out,
4 whether or not there's banking, whether or not
5 there should be special considerations for
6 industries that might be pushed out of state,
7 whether or not there should be an allocation
8 method or a grandfathering mechanism.

9 Those questions are good questions but
10 we didn't want to tackle them at this point.

11 MR. WHITE: A couple of questions?

12 COMMISSIONER BOYD: Go ahead.

13 MR. WHITE: First, in looking at the cap
14 and trade ideas and all the caveats you put on it,
15 did you have a sense of whether our emission
16 inventories are at all good enough to even begin
17 to design a program like that for California, or
18 do we need to focus on very significant
19 improvements in the emission inventories?

20 MR. MARGOLIS: We have a sense that
21 that's a critical question, and if you don't have
22 a critical, a good understanding of the emissions
23 inventory you shouldn't do anything, cap and trade
24 or otherwise in terms of making choices.

25 To understand how to achieve a two

1 percent, a five percent, a ten percent reduction
2 you need to understand a reduction from what level.
3 To understand how cost effective the emission
4 reduction is when pursuing the strategy that
5 you're pursuing with, it's command and control,
6 voluntary education, feebates, cap and trade, you
7 need to have a quality of emissions inventory.

8 So the quality of emissions inventory is
9 critical to whatever you do. If you're going to
10 be making choices that impose significant costs
11 you need to have an understanding of what that
12 inventory is and what each alternative produces,
13 in terms of emissions reductions.

14 MR. WHITE: Secondly, --

15 COMMISSIONER BOYD: Excuse me. Ralph,
16 did you have a point on this issue?

17 MR. CAVANAGH: I think the one place
18 where you don't need a good emissions inventory is
19 if the action has independent benefits to justify
20 doing it. So Josh, you didn't need an emissions
21 inventory to know, for example, whether it makes
22 sense to go after efficiency in renewables, if
23 they were a good resource choice for the state and
24 the country.

25 It's critical if you're setting up a

1 system where there are going to be costs and
2 you're trying to meet a target. And I think
3 you're right to put the emphasis in the context of
4 the emissions inventory.

5 But I wouldn't say you'd need it
6 everywhere.

7 MR. MARGOLIS: Well, my sense is that
8 there are gaps in the quality of the emissions
9 inventory from sector to sector, and, you know, so
10 it seemed that, while we're discussing and
11 debating this program that getting about the
12 business of improving our emission inventories
13 would seem to be a step we could --, you know.

14 MR. WHITE: Related to that, is it your
15 view that this, if a cap and trade program is
16 developed for California or for the region in some
17 form, or some sector, that it would be CO2 only,
18 or would it be multi-pollutant?

19 MR. MARGOLIS: Yet another question we
20 deferred answering. The answer is it's going to
21 be, most of these questions that you might think
22 about are going to be answered by first answering
23 what are the goals of the program, does it make
24 sense to have it resolved A versus B in terms of
25 what's most cost effective, what is most certain

1 to occur in terms of additional auxiliary
2 benefits.

3 The policy makers have to decide what
4 the critical elements of this cap and trade would
5 be, one of which would be certainty of achieving
6 the reduction one of them might be auxiliary
7 benefits, one might be equity, one might be
8 preserving California's industrial base.

9 MR. WHITE: Well, I have a sort of
10 different vantage point, which is that we're sort
11 of coming to greenhouse gas pollution reduction
12 after having spent a lot of time and effort on air
13 pollution emission reduction. And it happens
14 that, despite the fact that the larger greenhouse
15 community doesn't seem to talk about it, Mr.
16 Hansen, Dr. Hansen talks about this a lot, that
17 CO2 isn't the only pollutant to worry about.

18 In fact, black carbon, methane, ozone,
19 are all pollutants of interest. And it happens
20 that we have a fairly well developed program for
21 reducing those pollutants already. And so from my
22 standpoint, building off our existing inventories
23 and our existing control program might indicate
24 that we simply want to add CO2 and other
25 pollutants that are not currently regulated,

1 inventoried, worried about, in our thinking about
2 this.

3 Because I thought the discussion on the
4 oil refinery sector was illuminating. Only a CO2
5 centric discussion would lead you to conclude that
6 we want to somehow go back and burn more heavy
7 fuels, okay, you would never get to that
8 conclusion if you were thinking about more than
9 CO2.

10 And so I think, you know, I also think
11 that the broader public debate is going to depend
12 on us achieving multiple benefits. And I think
13 the Governor's plan does recognize that, because
14 in some ways a core of our action items are things
15 that we are already doing that have climate
16 benefits but that were largely initiated for other
17 purposes.

18 MR. MARGOLIS: Two thoughts. We did
19 conclude that a cap and trade program does not
20 necessarily have to replace the existing programs.
21 it should complement the existing programs. It
22 may eliminate the need for future programs because
23 you may decide that the reductions could be
24 achieved sector from industry-wide if it was in a
25 cap and trade program as opposed to if it was not.

1 So the idea of a market-based program, a
2 cap and trade program being independent of or
3 somehow supplanting existing programs such as
4 Pavley, it's, we didn't get to that point. We
5 concluded that they can co-exist.

6 The second is that you pursue the
7 answers to how the program is designed. And we
8 all came to the conclusion that a well designed
9 program is the only way to go, as opposed to a
10 poorly designed program -- again, it seems silly,
11 but if you're making these decisions you have to
12 say "I want this pollutant in the program because
13 it's going to help us achieve least cost most
14 certain solution."

15 But it doesn't mean that just because
16 you have five different pollutants that you should
17 go after five different pollutants that contribute
18 to greenhouse gases.

19 I'm trying not to be didactic or too
20 simplistic, but again it all falls back to the
21 well designed program.

22 So the answer is yes, multiple
23 pollutants if it's the least cost solution.

24 COMMISSIONER BOYD: Nancy?

25 MS. SKINNER: A couple of comments.

1 First on the inventory question. There may be
2 multiple reasons or whatever that cap and trade
3 may or may not be the optimum program for
4 California, either in meeting its targets or as
5 the best market based program for that matter.

6 But I think that the issue about quality
7 of inventory should not be a primary factor, and
8 the reason I say that is because we know there's
9 gaps in the quality of inventories, they do
10 improve with experience.

11 And if you take the experience from,
12 say, UK or EEU, their inventory methodologies are
13 not so superior. In fact I would say that I
14 personally think that the inventory methodology
15 that's now been adopted by our California registry
16 is superior to some of the inventory methodologies
17 that are used in Europe.

18 So I think that, while we could always
19 improve in that methodology I don't think that
20 should be a primary factor in argumentation pro
21 and con for a cap and trade.

22 But I want to go back to the cross-
23 cutting, and I'm relatively new to the Advisory
24 Committee, I was only appointed in March, and I
25 participated in the previous meeting by phone.

1 And in that particular meeting, well I
2 heard what everyone else said and the few times I
3 tried to intervene nobody heard what I said, but
4 that's okay.

5 And I think it's going back to John's
6 point about the air quality issues, not just air
7 quality issues but rather that, I don't know how
8 much attention the Committee or the cross-cutting,
9 the Committee as a whole or the cross-cutting
10 committee gave to weighing how we might integrate
11 any kind of action, regulations or other around
12 carbon and CO2 with existing regulations around
13 air quality.

14 And I personally feel that we would
15 probably cost them very differently. All our
16 presentations about the cost of everything was
17 completely from the carbon center point of view.
18 And there is obviously a whole cost to regulatory
19 frameworks.

20 And the state and the state's taxpayers
21 and the users of fuels and technology are already
22 in effect bearing those now for air quality and it
23 may be that there would be a cost reduction with
24 them being integrated.

25 I don't know that for sure but it

1 certainly makes sense that if there was some kind
2 of integration in a regulatory system versus two
3 separate ones. So I think it might be worth it --
4 and I don't know if we're too far along -- but it
5 might be worth it for the, before our final
6 recommendations come out for us to think about
7 what kind of possibilities there are for that kind
8 of integration.

9 And also I'm heartened by the fact that
10 the task force that the state has set up is a
11 multi-agency task force that will hopefully look
12 at it from that point of view and will not only
13 look at it from a carbon-centric point of view.

14 COMMISSIONER BOYD: Jan?

15 MS. SCHORI: Yes, I, first I want to
16 compliment the group, because I think you have a
17 very large task and it's very challenging to try
18 and thing this through.

19 With this group being kind of the
20 overarching principles, when I thought about the
21 question it occurred to me that maybe what we
22 could and should be doing, based on all the
23 information we've been getting in the
24 presentations is figure out where are the holes in
25 state policy.

1 And think about what we might be able to
2 accomplish in stages, if our ultimate goal is to
3 get to the Governor's objectives. And admittedly
4 there are some easier targets and some more
5 difficult ones.

6 But one common theme that I've ben
7 hearing this morning is that there's just flat out
8 lack of data or insufficient data for a lot of
9 sectors, and some of that is simply because we
10 don't have any kind of mandatory reporting in the
11 state.

12 So maybe this is more of a process
13 question. I don't know if at the end the goal is
14 to get to a consensus of this group or
15 alternatively if it is to get to as many positions
16 supported by the majority of participants in the
17 group with dissenting opinions in each of the
18 categories.

19 But what I'm thinking about is just in
20 terms of the challenges going forward and
21 recognizing that any time you talk about mandates
22 there are political challenges. But we are trying
23 to sit here and figure out what are the things we
24 need to do if we want to make progress on this
25 issue, which I think everyone around our table is

1 trying to do.

2 I was interested in the discussion and
3 the paper about, which seemed to be a very strong
4 emphasis on a California cap and trade system
5 being second best or least bet or whatever, but
6 I'm wondering if we have to answer that question
7 at the beginning.

8 Maybe we should be figuring out what the
9 pieces are, and then we figure out how do we build
10 enough support to get to the broader solution we'd
11 all like to see. But maybe the policy makers, at
12 the end of the day, want the opinion of this group
13 on whether or not a California stand-alone cap and
14 trade system is where we want to go, whether or
15 not it should be a multi-sector approach --.

16 I read the discussion paper that's been
17 put together, it's kind of focused on trying to
18 figure out, since we don't seem to have too many
19 folks lined up with us, although the Governor's
20 association is taking a look at this.

21 So maybe I need a little more guidance
22 on what we're trying to accomplish through this
23 group, and if we are going to put forth cap and
24 trade as the "preferred" solution it does seem to
25 me that we haven't done very much homework -- and

1 maybe it's one piece of many, it's a big piece,
2 but there are other things that you mention in the
3 paper that are still worthy of exploration by the
4 state to see if, at the end of the day --.

5 My own belief is that you need a package
6 of the whole thing if you're going to get there,
7 of all these different options including cap and
8 trade.

9 So that's kind of a long speech, and I'm
10 not sure if at the end of the day we're all going
11 to be asked to vote to support a paper, or what,
12 so I'll just offer up those comments, because I
13 would maybe lay out recommendations by staging in
14 terms of what are the most immediate needs we
15 have, what are the mid-term needs, what's most
16 feasible, and then what this group might recommend
17 at the end of the day is the ideal solution and
18 then the second best solution. I don't know.

19 MR. MARGOLIS: The point you make is
20 brilliant, it's excellent, I mean its --. Do you
21 cause reductions, do you achieve the Governor's
22 targets by only doing something in state, or do
23 you somehow affect the reductions out of state.

24 Given the regional and global nature of
25 greenhouse gas emissions, from the purely

1 scientific standpoint a reduction here is as good
2 as a reduction in Texas or in Lithuania or South
3 Africa. I guess we have to turn back to the
4 policy makers and say to the policy makers are we
5 supposed to cause the reductions to occur, period?
6 Or do we only have to cause the reductions to
7 occur in the state of California?

8 And I wonder if it's the latter because,
9 very quickly, with the power sector you can't just
10 look at California, so by definition you have to
11 go outside of California.

12 MS. SCHORI: Right, especially if you're
13 looking at new power resources potentially coming
14 in through transmission, and the Governor at least
15 has proposed such a transmission line out of
16 state, then it would seem like you would probably
17 be -- have a broader market, I guess I'll put it
18 that way -- for emission reductions as well.

19 This is very complicated, so it's hard
20 for me to try and get it into an overall outline.

21 MS. PULLING: Josh and Peggy, thank you
22 for doing all this hard work, and I think I'm
23 echoing Jan, I think you put it very well. it may
24 be that we're just trying to figure out what's
25 most helpful for you, Jim, and the Governor's

1 team.

2 Because when I read this it wasn't clear
3 to me whether -- there's a lot of California
4 should do this and should do that visavis cap and
5 trade, it seemed like we were getting into the
6 design specifics of a cap and trade system without
7 necessarily knowing if a statewide only cap and
8 trade would be the best as compared to what.

9 Like Calpine, PG&E is a strong supporter
10 of cap and trade at the federal level. What does
11 that look like at the state level, I don't know,k
12 I don't know if the analysis has been done, it may
13 be, maybe that's where we should end up.

14 But I'm sort of struggling too about, is
15 that, do we want to get into that level of
16 specificity in these workgroup papers or would it
17 be more helpful to have some sort of menu of
18 solutions or some prerequisites, as I think John
19 was talking about, if we're going to do anything
20 we need to have reliable, rigorous reporting.

21 So I think you guys, you know, you
22 probably had the toughest assignment, but I think
23 it probably is worth looking at a little bit of a
24 broader suite of options as opposed to digging in
25 in this paper only on cap and trade. So --.

1 COMMISSIONER BOYD: Well, I'm going to
2 let everybody else have their say before I venture
3 any kind of opinion. Cynthia, and then there were
4 others.

5 MS. CORY: Same concern, different
6 words. Having heard Josh's presentation, and then
7 heard Peggy's question, who's the co-chair, I was
8 kind of wondering why there was a thing here, in
9 your page three it says "while the subcommittee
10 supports California's efforts to independently
11 pursue reductions we acknowledge this is second
12 best."

13 So I'm just wondering if that's
14 unanimous. And I don't think that was the
15 consensus of the industry and ag group. I'm just,
16 you know, same question, but making sure you
17 understand, there's concerns from myself, maybe
18 I'm the only person on the Committee, but being
19 associated with something that is already deciding
20 as to how a California program cap and trade is
21 the way to go.

22 MS. DUXBURY: But there was a consensus,
23 as I mentioned, from my company's perspective,
24 we're not ready to look at a specific program like
25 cap and trade yet for a single state.

1 That doesn't mean that we don't think
2 that's the best solution, we just haven't really
3 answered all the questions ourselves as to -- this
4 has been a really helpful process, and I think
5 Josh, who really drafted a lot of this, did a good
6 job of shining a light on some of the issues that
7 we'll all be wrestling with over the next couple
8 of years.

9 I think what is tricky is getting the
10 kind of guidance we need to know what's valuable
11 from this stakeholder group to sort of pass the
12 baton to some of the others that are going to have
13 to really address some of these issues that Josh
14 has done a good job of shining some of the light
15 on, that are questions that aren't going to be
16 resolved in the next couple of weeks or in the
17 next three months, within my own organization.

18 I'm not going to know in the next three
19 months if we could support a California specific
20 cap and trade program. I know what we think
21 nationally, because we've been quite involved for
22 a number of years on that as a company, in terms
23 of federal legislation.

24 So I think your questions are all really
25 helpful.

1 MS. CORY: It just goes to, and I
2 understand that we're an advisory group, but I
3 always get concerned because I see a lot of
4 reports come out that have a lot of advisory
5 committee members on them and then they go over to
6 the Capitol and a special hearing is held and then
7 you see that so and so from the Farm Bureau, so
8 and so from Calpine, all of these people were a
9 part of this report, and it turns into
10 legislation.

11 And I just want to be sure that, as we
12 articulate this, how we present it. And I
13 understand that there's different viewpoints, but
14 it's a concern to me, and I don't know if we're
15 going to do a minority version of this report or
16 what, but it'll be really important to me how we
17 word this.

18 COMMISSIONER BOYD: Josh, you wanted to
19 make a comment?

20 MR. MARGOLIS: I think there was a
21 consensus that second best is California only, or,
22 not best is California only. That's it's best to
23 have a regional program, and have a regional
24 program that could be integrated into a national
25 program, that could be integrated into a global

1 program.

2 But that, you know, that same discussion
3 should happen when it comes to sector by sector,
4 industry by industry. It's best not to focus on
5 just one industry or one sector and say what can
6 this industry, what can this sector do.

7 Because if you only look at that then
8 you're going to say well, here are my array of
9 options for this particular industry, for this
10 particular sector, so let's choose the best option
11 for the sector.

12 But that best option may be far worse
13 than another option from another sector from
14 another region from another state. And I think
15 it's fair game.

16 If I was focused on the ag issues only I
17 would say geez, should we be pursuing ag only
18 solutions in the state of California? As opposed
19 to saying ag solutions that we could cause to
20 happen in Iowa.

21 If the Iowa reductions are less
22 expensive then why force California farmers to
23 pursue solutions that are three times the cost of
24 what they could cause to happen in Iowa?

25 So, see, you can apply that to any

1 industry, semiconductors to cement to construction
2 to housing. These are valid questions.

3 You shouldn't look at this report and
4 say these guys said that it's California.

5 COMMISSIONER BOYD: Abby and then John.

6 MS. YOUNG: Yes, that's what I wanted to
7 comment on too, John. I think that whether or not
8 the focus of this particular recommendation or
9 lack of recommendation from this Committee is
10 focused on California only or regional or
11 national.

12 Most of the questions raised in this
13 paper hold regardless. And if the purpose or
14 valuable guidance from this Committee would simply
15 be something along the lines of the state needs to
16 look and continue to look over time at the
17 potential development of the cap and trade program
18 given all the opportunities that are emerging
19 within the state and outside of the state,
20 including looking at these different issues, maybe
21 that's the recommendation that comes from this
22 group.

23 And it's a bit more open-ended. And
24 this is one of many. Certainly not pigeon holing
25 the group to just look at this or to look at this

1 in such a narrow focus that we're saying
2 California only or nothing. I think it's meant to
3 be a lot broader than that.

4 MR. BENNETT: I was very encouraged
5 looking at the numbers that were put up earlier
6 this morning about the direction of California
7 industrial, agricultural and other activities have
8 taken to the extent that greenhouse gas reductions
9 are occurring, and they're occurring for a number
10 of reasons.

11 I'm concerned about this concept of cap
12 and trade, not only from my own industry's
13 perspective, because in California the per capita
14 consumption of the product that we produce
15 continues to increase, and the number of folks in
16 California continue to increase substantially.

17 So the need to bring this material in is
18 critical, and already we're having to achieve that
19 by about 25 percent of that coming from foreign
20 sources. So it's very easy to understand in a cap
21 and trade situation where that's going to shift
22 more to dependence on foreign sources of cement in
23 California. That's not a climate friendly policy
24 decision.

25 But even more specifically, it reminds

1 me of something my Dad used to talk about, you
2 know, if you're a hammer everything looks like a
3 nail. And that's the sense I get of going to this
4 cap and trade. We have a tremendous opportunity,
5 as a Committee, as policy setters, to open up and
6 look at the activities in California and find the
7 dis-incentives that exist first and foremost for
8 reducing greenhouse gas and address those.

9 There's an awful lot of things that we
10 can do with public policy and with the tax dollars
11 that we get to incentivise this before we have to
12 go to a cap and trade or command and control or a
13 non-voluntary system.

14 And I think the Governor's challenge to
15 us, at least the way I took it, was to get out
16 there and find those things and move ahead and
17 help the state's economy in doing it, that we
18 could have a healthy economy and still meet our
19 objectives with greenhouse gas control, and I
20 would encourage us to try and find those
21 opportunities before we subject ourselves to a cap
22 and trade state only type of program.

23 MR. MARGOLIS: I think that, John, that
24 applies to any measure that we take, whether it's
25 cap and trade or command and control. If we can

1 get to where the Governor wants to go with any
2 weight tons or measures that we're going to pursue
3 anyway, we have no need to talk about cap and
4 trade or command and control.

5 And if that's the case then this is a
6 short discussion. I think, if you look at cap and
7 trade you say you should only do this if it's the
8 best alternative. And if you can find better
9 alternatives, then do those. Better alternatives
10 that are cheaper, better, faster, more equitable,
11 preserve the California industrial base, you
12 should do those.

13 And if you pursue a cap and trade
14 program it should be well designed to meet all the
15 political goals that you want, which may be,
16 should be preserving the industrial base, before
17 you impose cost upon an industry or sector or
18 state. That's the way you need to go.

19 MR. KNIGHT: I was just curious whether
20 there was any effort to look at alternatives from
21 an analytical perspective, not political in this
22 case.

23 For example, carbon fees, in terms of
24 cost effectiveness or equitability or industry
25 structure?

1 MR. MARGOLIS: We got going, we had a
2 very short amount of time between the time of this
3 meeting and now. So the answer is yes there was,
4 but not from a rigorous analytical standpoint.

5 There was a great deal of, I think there
6 was an expectation on the table that this
7 particular policy option was going to receive a
8 great deal of attention. So the question was if
9 you do this, what should it look like.

10 But that's not to dismiss any of those
11 other alternatives.

12 COMMISSIONER BOYD: John?

13 MR. WHITE: Just one thought about the
14 different sectors, the quality inventory, and the
15 threat of increased global warming pollution.

16 It seems to me that the energy sector,
17 power sector, and transportation are both sectors
18 that appear to have things going on more than
19 simply associated carbon emissions with economic
20 and population growth.

21 In the case of the power sector we have
22 an enormous threat of increased emissions coming
23 from an increase in the coal sector's, our
24 reliance on coal, unless we force or manage a
25 shift to new technologies.

1 In the case of petroleum we also have
2 significant increases in demand above and beyond
3 population growth. And the potential for
4 increased carbon intensity coming from the tar
5 Sands and bitumen reserves in Canada as a
6 replacement for the declining conventional
7 reserves.

8 So I don't think that argues against the
9 points you made in your paper but it does suggest
10 that as we look at the various sectors, both how
11 well equipped we are to manage and regulate, but
12 also where the growth in global warming emissions
13 may be coming from as opposed to where we want to
14 get reductions to get to a lower target. That
15 might give us a sense of where to start.

16 COMMISSIONER BOYD: Okay, oh, Mike,
17 excuse me.

18 MR. HERTEL: I was just going to offer
19 some comments on cap and trade in terms of
20 designing the system.

21 It seems to me that Peggy's made some
22 comments about cap and trade from the national
23 level for power sector only. We frankly don't
24 think that makes sense.

25 If you're going to do cap and trade, all

1 of the studies that I've seen at least show that
2 the efficiencies go way up if it's multi-sectoral.
3 And to try to do it sector by sector doesn't make
4 a whole lot of sense.

5 Now, having said that, you pan back and
6 look at our situation now, which I'm taking to be
7 a California only situation only because the
8 Governor's Executive Order only applies to
9 California, then I guess I'd say that the cap and
10 trade system for the power sector makes even less
11 sense, for the simple reason that you have
12 tremendous leakage problems that I don't think the
13 demand cap concept that we've been talking about
14 in any way approaches a solution.

15 So again, I think the response would be
16 this idea of going more broadly is a sine qua non,
17 it's a necessary thing to be successful if you're
18 going to apply this to the power sector.

19 Otherwise, basically all you're going to get is
20 transference of those emissions to someplace else
21 with a higher cost, which is a double whammy. So
22 I think those two things need to be kept in mind.

23 Going now to the last segment, if you
24 say to yourself I'm going to do it anyway, which I
25 don't think the state has done and the Executive

1 Order doesn't really accomplish that, but should
2 the legislature decide to do that, then I think
3 whatever goal is selected, it makes sense to try
4 to do it in multiple sectors and not just sector
5 by sector.

6 And that would make some sense to me.
7 I'm not endorsing that, I simply say that if you
8 decide to shoot yourself in the foot at least aim
9 at a digit that isn't as painful as your big toe,
10 you know.

11 MS. DUXBURY: One quick comment on that.
12 The federal legislation was focused just on the
13 power sector but it was multi-emission. So it was
14 not a carbon-centric piece of legislation. It was
15 looking at four major pollutants that our sector
16 was specifically regulated on.

17 And we thought if you're going to change
18 how you regulate traditional air pollutants it
19 makes a whole lot of sense to look at carbon at
20 the same time, because that was the issue that was
21 their focus.

22 We have been more recently looking at
23 some work that Senator Binghamton has been doing
24 that is, it's more carbon-centric but it's focused
25 on the economy wide type program.

1 MR. HERTEL: No, I appreciate that, and
2 I'd also expand it to think about all greenhouse
3 gases while you're at it. So the broader the
4 better, the scale the larger the better.

5 But in some cases shrinking the scale makes
6 the program, in my judgment, impractical. And
7 that's the case with the power sector, I believe,
8 in California.

9 MR. MARGOLIS: On that point, and to
10 Peggy's and to Mike's point, and to Cynthia's as
11 well, I don't know if it was artfully written,
12 cleverly written or just a happenstance, but the
13 Governor, he doesn't talk about California
14 emission reductions, he talks about reducing
15 greenhouse gases.

16 So it may be the intent, and it says
17 that "the following greenhouse gas emission
18 reductions are hereby established for California.
19 By 2010 reduce greenhouse gas emissions to 2000
20 levels," etc.

21 It doesn't mean reduce California
22 greenhouse gas emissions, or maybe it does. But
23 it wasn't specified.

24 MR. HERTEL: Well, I thought that in all
25 of your comments, and correct me if I'm wrong,

1 Josh, but I inferred perhaps wrongly the notion
2 that, if you're going to do this, that is get to
3 these reductions, and you're thinking about doing
4 it the cheapest way possible, then offsets are a
5 necessary ingredient in that.

6 And designing that, which gets to be a
7 chore, but designing that in a way that allows for
8 the cheapest reductions possible is a principle.

9 MR. MARGOLIS: You're not incorrect.

10 COMMISSIONER BOYD: Jason, the last word
11 before me.

12 MR. MARK: Wow, that is a wonderful
13 opportunity for me, yes. And of course that
14 means --

15 COMMISSIONER BOYD: I'm just hungry

16 MR. MARK: Yes, I understand. Well, I
17 guess I wanted to suggest that, the challenge for
18 us as a Committee is that, at the end of the day
19 whenever our activity is out, being able to tell
20 the Governor and the Legislature that there are a
21 suite of policies that can help meet these
22 emission reduction targets.

23 And so it's difficult I think to imagine
24 getting there, based on the analysis we've all
25 just seen this morning, but I think other analyses

1 without additional programs and just kind of, you
2 know, building up, turning up the knob on the
3 existing suites I guess.

4 So the challenge is the Governor has set
5 up a leadership goal for California, and I think
6 these emission reductions are for in fact
7 California emissions. And if they total up to 55
8 million tons by 2010 and 145 by 2020 the question
9 is how do we get there, and cap and trade could be
10 part of that opportunity.

11 I would urge us to struggle as a
12 Committee when we're dealing with this issue about
13 California only, because we're of course offering
14 advice to the state of California. They can't
15 control Washington D.C. nor can they control the
16 legislatures of Oregon, Wyoming, and so on and so
17 forth.

18 So I would urge us to really struggle
19 with this issue. I think we need to hear more
20 about what the concerns are about a California
21 specific cap and trade, either in the subcommittee
22 or in the broader committee, and really explore
23 this issue about what can this Advisory Committee
24 support that is specific to California, because we
25 are in fact talking to California policy makers.

1 COMMISSIONER BOYD: Well, the first
2 thing I want to do is thank and compliment the
3 cross-cutting committee for having the courage for
4 even venturing into cap and trade as the thing you
5 chose to explore visavis a lot of other issues.

6 My other observation is I'm not
7 surprised by the lack of being able to seemingly
8 come to closure this easily, or like say for
9 today, on the subject.

10 A lot of people in the media, when they
11 heard you were looking into cap and trade, called
12 me and said oh, California's going to embark on
13 cap and trade, and all I would say is that this
14 group is just looking at cap and trade as one of
15 many approaches one might take, it does seem to
16 permeate lots of discussions.

17 Two things I need to say. One is, as
18 you remember at the beginning of this meeting and
19 every meeting, I point out our charge as an
20 advisory committee under statute was to advise the
21 Energy Commission on what it might include in
22 terms of recommendations.

23 And after the statute was written the
24 call for the Integrated Energy Policy Report
25 became our thing to do and our forum for including

1 these recommendations. And as I said to you all,
2 we need your input on issues we might include in
3 our 2005 report, which we are beginning to need to
4 close down into a draft.

5 So, the other thing that's occurred
6 since we started -- and knowing how complex this
7 was, all the issues you're addressing, I think
8 you've made incredible progress on a lot of them.

9 As I say, tackling cap and trade -- this
10 is probably the discussion we need at the end of
11 the day, but the agenda put this issue first
12 because it seemingly was simple and cross-cutting.
13 In reality it really reflects on everything that
14 we're doing.

15 Since we started a year ago the
16 Governor, of course, has stepped up to the plate
17 and put us on a different, not a different course
18 just added to what we're -- clarified some of the
19 uncertainty, and put us on a course as a state to
20 pursue things and charged the Secretary Pavley of
21 giving him recommendations by next January on
22 certain things to do and so on and so forth.

23 So we've been provided an off ramp by
24 the Governor, or maybe really he's built a whole
25 new freeway for this issue to carry forward. And

1 as I indicated at the beginning of the meeting,
2 and as I think Eileen Tutt mentioned, the cap and
3 trade working group was one of the first working
4 groups that the Climate Action Team created.

5 And I indicated at the beginning, the
6 best thing I think we can do is hand off an
7 overview of this group to that group in order to
8 carry on its work. So, in a sense, I don't see us
9 having to wrestle with this much longer.

10 I thought Josh, in his oral presentation
11 and as augmented by a lot of you, just gave some
12 general guidance as to, you know, if you're going
13 to look at cap and trade there's a lot of things
14 you need to look at.

15 And there's a lot of other options out
16 there that need to be pursued that we didn't have
17 time in a year to even venture a look at, since
18 you're basically a part-time group and I, of
19 multiple stakeholders who have different points of
20 view, I didn't ever expect consensus, and I'm not
21 disappointed therefore.

22 So I think we heard a lot of good things
23 today, and I think maybe in the short period of
24 time that we have left, which is not much at all,
25 and at the end of the day we may have some

1 different points of view after we debate the
2 individual sector ones, but maybe we can find some
3 words to modify the cap and trade thing to leave
4 it kind of a general set of observations and not a
5 hard and fast recommendation.

6 I'm beyond feeling, in some areas, that
7 in a year's time -- had the Energy Commission been
8 the only player on the scene and had this group
9 had it's charter renewed for every IEPR in
10 perpetuity, and then thank God I wouldn't be here
11 too much longer -- you could continue on with this
12 and who knows what we'll continue with.

13 But in light of the climate we have
14 right now I think we just need to make this
15 advisory to others and not necessarily have to
16 close in on a hard and fast recommendation.

17 I thought it was both gutsy and fraught
18 with all kinds of problems that the cross-cutting
19 group chose cap and trade to hone in on so
20 specifically visavis looking at it and maybe
21 mentioning the others, but as indicated there is a
22 group of veteran agency people who've had a lot of
23 experience that are going to take a look at this
24 and then vett their work in other public venues.

25 There's so many things we didn't talk

1 about today that even I'm aware of, the carbon
2 adder work of the PUC, the recommendations of this
3 agency's last IEPR to incorporate as a data
4 adequacy requirement in the building of new power
5 plants the CO2 and other greenhouse gas emissions
6 consequences which will be done in the regulatory
7 process.

8 There ar so many other things happening
9 that would fit into a debate about the power
10 sector or cap and trade that I couldn't expect a
11 group like this in the time frames we've had to
12 capture all of that. So I think you've done an
13 incredible amount of work in a short period of
14 time on a very knotty subject, and now you see how
15 knotty it is just by the debate around the table.

16 So maybe we can wrap this up in a short
17 period of time and your legacy can be pointing out
18 to us these kinds of issues which I am very glad
19 to hand over to Secretary Lloyd and his people to
20 continue the debate on.

21 So that's my reaction to where we are
22 today on this, but let's not close it down here,
23 because we have many other sectors to hear from
24 this afternoon. I think we've turned this pyramid
25 on its head a little bit, but it should prove to

1 be interesting.

2 We need to break for lunch, we need to
3 be back in roughly an hour's time, and I guess the
4 advisory group, Susan has lunch across the hall.

5 Okay, thank you everybody, see you at
6 2:00.

7 (Off the record.)

8 COMMISSIONER BOYD: Back on the record.
9 Josh wanted to get the absolute last word in on
10 the last item. I said I'd give him a minute or
11 two before we move on. Well, he did start it off,
12 I tried to get the last word.

13 MR. MARGOLIS: When you finish the
14 discussion then you walk into the room and people
15 say gee, that was a courageous thing to do.

16 I wanted to say specifically that, with
17 respect to the cross-cutting analysis we did, that
18 we did and didn't do certain things. We did not
19 conclude that cap and trade program is the answer.
20 We didn't conclude that cap and trade program of
21 any specific design is the answer. We didn't
22 conclude that it was the best answer.

23 We specifically said that if you have a
24 better answer you should pursue that. And we
25 talked about a number of different things that

1 could be better.

2 So cap and trade is not the only answer,
3 it's not the best answer necessarily. If you do
4 it you should do it right. And I think the
5 summary that I gave you was the summary of the
6 committee discussions that got there.

7 And it is fair to say, it's accurate to
8 say that there was no conclusion about what we
9 should do next. So there is no conclusion about
10 pursuing a cap and trade program, and it was
11 specifically said that if you do it you should do
12 it right and make sure that it's the best solution
13 that's on the table, acknowledging that there may
14 be others, better solutions out there.

15 COMMISSIONER BOYD: Okay, with that we
16 move to the sector based subcommittees, and I'm
17 just going to take them in the order that they're
18 on the agenda. Transportation sector -- must be
19 you, Jason, because I don't see Michael here.

20 MR. MARK: I'll keep this brief.
21 Everyone has our very short effort, endeavor if
22 you will, in your package. My sense is that --
23 and other committee members can help me sort this
24 out -- but my sense is there's some wordsmithing
25 that we're going to want to continue to do, but at

1 least from the subcommittee's perspective that
2 this is sort of our presentation for the bulk of
3 it.

4 So I was just going to walk you quickly
5 through it.

6 The first paragraph just tries to
7 clarify the enormity of the issue, that
8 transportation has got to be part of the solution.

9 Next are the principles that we tried to
10 articulate, Greg has already gone over them. I'll
11 just summarize them by saying that, number one, we
12 should have both bottom up and top down
13 strategies.

14 Number two, that we should have
15 standards, but that also they should be
16 complemented by incentives.

17 Number three, climate strategy's got to
18 be built into air quality and petroleum reduction
19 efforts.

20 Number four, we need short and long-term
21 solutions, we need the whole nine yards.

22 And then we took the time to
23 specifically highlight a couple of sectors,
24 because we thought they were critically important.

25 IN terms of emissions, cars, truck, and

1 freight trucks, and air travel, which are together
2 by far the bulk of the emissions from the
3 transportation sector.

4 So those are the key sectors in trying
5 to urge the Commission to spend some time,
6 particularly evaluating opportunities in the
7 freight and air travel sectors, which are a huge
8 part of the greenhouse gas inventory but for which
9 we don't have any serious existing policies
10 underway from a climate perspective, whereas in
11 the car side we obviously do.

12 But on the car side, mandatory
13 reductions, we explicitly culled those out, in
14 that California needs to take a leadership role.
15 And automotive incentives, here we talk about
16 feebates, fees and rebates as an important
17 strategy for complementing standards to reduce
18 emissions.

19 And then just moving on, two more items
20 on the list, travel reduction at one to two
21 percent per year growth rate for vehicle travel.
22 Everything gets really hard towards meeting the
23 Governor's emission reductions unless we can find
24 some serious ways to reduce the demand for travel
25 in California over the coming years as population

1 grows.

2 And then finally, low greenhouse gas
3 emission fuels, we see those as critical as a
4 long-term option, that some of the strategies that
5 are already on the table, efficiencies for freight
6 travel for example or low-emitting technologies
7 for cars only goes so far, and that ultimately
8 we're going to have to de-carbonize our fuels over
9 the coming decades.

10 That's it. Any other subcommittee
11 members want to chime in?

12 COMMISSIONER BOYD: Wow, unanimity, no
13 questions? I just meant within the group.
14 (conversation and laughter)

15 MR. HERTEL: Jason mentioned California
16 should take a leadership role and I would say yes,
17 particularly in working to advance federal
18 standards in this area.

19 COMMISSIONER BOYD: We like CAFE, but
20 we're not in charge of our future. Cynthia, you
21 were next, and then Abby.

22 MS. CORY: Again, I mean I hate to be
23 the bad apple here, but some of these -- I guess
24 what I need to do is write a personal perspective
25 on each of the reports. Is that how we're going

1 to do it?

2 There's just a philosophy, which I'm
3 representing, which mandatory reductions is not a
4 philosophy that some of my, that the farmers will
5 support. So I guess I just need to reflect that,
6 and I know that strongly, about how they feel
7 about the Pavley bill.

8 MS. SCHORI: It would be helpful to get
9 maybe a little bit more clarification about what
10 the members around the table are being asked to
11 do. Are we being asked to sign off on behalf of
12 our organizations, or --? Because I know that
13 would help me as well.

14 And is today the time that we need to do
15 that, or is it at some late opportunity?

16 COMMISSIONER BOYD: Well, certainly
17 today could be the last public opportunity to make
18 these kind of comments. At the end we're going to
19 give everybody the maximum time that the IEPR
20 process will give us for us to wrap up the written
21 stuff here and for people to put in some written
22 comments, but that's not very much more time,
23 so --.

24 And, you know, I mean getting to the end
25 of the day early, as I said on the first item,

1 when we put the pyramid on its head, the cross-
2 cutting report, which was really the toughest
3 one -- I'm going to wait to hear from the group
4 more.

5 Actually I thought a lot of progress was
6 made, I don't expect unanimity. People from other
7 places have been surprised about the collegiality
8 and seeming unanimity that this state seems to be
9 able to get out of this group visavis their
10 experiences in other places.

11 So, we get as close as we can get, and
12 then we move from there. So, anyway, there was --
13 Abby was next, and then John.

14 MS. YOUNG: Two comments. One, it's a
15 piece of one of the bullet points. But I just
16 wanted to state that I don't think that we can
17 underestimate the importance of land use policies
18 in affecting our transportation emissions.

19 And specially from my stakeholder
20 groups, local governments is one of the levers
21 that they control, so that's very important.

22 And then number two, perhaps it's
23 implied, but maybe something getting at
24 transportation funding in the state, how the funds
25 go to the MPO's, how they leave the MPO's, what

1 the priorities for funding traditionally have been
2 versus what they could be, that kind of thing.

3 COMMISSIONER BOYD: Have you got enough
4 input and guidance on that latter subject to say
5 something, Jason, about funding?

6 MR. MARK: It seems to me that's a
7 useful addition we ought to make. I think we'll
8 take it back to the subcommittee and just try to
9 write up a sentence that goes with it.

10 COMMISSIONER BOYD: John?

11 MR. WHITE: Not to belabor the previous
12 discussion, but I think both on the transportation
13 Pavley discussion and on the cap and trade, part
14 of what we need to face up to is that we are
15 grappling with these issues in part because of the
16 deliberate vacuum that has been created at the
17 federal level.

18 And some of the folks here, PG&E,
19 Calpine, and others, have been noteworthy for
20 their work at the national level, that they have
21 walked the walk about supporting strong national
22 policies that might make California's unilateral
23 initiatives less necessary.

24 But it is in fact that vacuum that we
25 are forced to fill. And maybe one way to finesse

1 this tension that exists between do we really want
2 to advocate policies that California itself would
3 do, if we're going to caveat that we need to say
4 that the thing we all agree on, or maybe many of
5 us agree on, is the critical need for a national
6 strategy that is meaningful and that addresses
7 this.

8 As I was saying in response to Ben, I
9 don't have an objection to nationalizing Pavley,
10 that's sort of what the strategy is is to do
11 enough states after California to get the federal
12 government to have to act.

13 But in fact I actually think Pavley is a
14 better paradigm than CAFE for us to work from,
15 because it's multi-pollutant, it integrates
16 greenhouse gas and air pollution. so I think part
17 of what we're struggling here is, and maybe nobody
18 wants to say it, but it's the failure at the
19 national level to even entertain and discuss and
20 prepare for what everybody else in the world is
21 inevitable.

22 So what's left to us, I mean, there are
23 things about California doing things ourselves,
24 and I'm proud of working with Jim and Ralph and
25 others on this, but in this case it's really that

1 failure at the national level that is forcing us
2 to look to doing things in part politically.

3 I mean, one of the reasons in part to do
4 cap and trade in California is to force the issue
5 out and get the metrics right and show people how
6 it could be done and it isn't that hard.

7 But the other fact is that we have a
8 political stalemate that is stakeholder driven,
9 it's ideological, and it is dysfunctional for our
10 country, and yet if this group weren't going to
11 say that California should do some things on its
12 own then it needs to also prepare to say what we
13 want and demand even that the national government
14 should do it.

15 COMMISSIONER BOYD: There's a cross-
16 cutting issue for you, for your committee. And
17 while dishing out praise, I'm going to give
18 honorable mention to Ben Knight and Honda with
19 respect to CAFE, because they're one of the
20 companies that has consistently supported that
21 idea.

22 That probably has something to do with
23 why you're at the table, Ben. But in any event.

24 MR. CAVANAGH: Is there another auto
25 company that has? Fuel economy standards? I

1 think you're the only one.

2 COMMISSIONER BOYD: All right.

3 MS. YOUNG: Can I just, in picking up on
4 that comment, in working with local governments
5 that have done this exact kind of progress in
6 California and around the country, a number of
7 them have included in their climate action plans
8 specific language saying that one of the actions
9 we're going to do to help meet our local target
10 is, I know it's not a good word, but lobby state
11 and federal levels of government to -- yeah,
12 advocate, I don't know if you're supposed to use
13 advocate or not --.

14 But, you know, they've actually used
15 that in quantified potential impacts from that
16 action and how it could help them reach their
17 local goals.

18 COMMISSIONER BOYD: It never hurts to
19 re-emphasize that the Energy Commission's been on
20 record, and the ARB, since 2003 with two different
21 reports about the importance of efficiency in all
22 energy fields, including transportation fuel.
23 Efficiency is job one in all three legs of my
24 energy stool -- natural gas, electricity,
25 transportation fuel.

1 But efficiency for transportation fuel
2 has met, until Pavley, CAFE, and this was an area,
3 until Pavley, the state was powerless other than
4 to recommend that some actions be taken at the
5 national level and to suggest that California try
6 to show leadership and even join with other states
7 or regional entities in trying to push this
8 subject.

9 But it's been an uphill struggle, and of
10 course the Congress refused to act on it again a
11 couple of weeks ago. So once again the nation
12 state of California finds itself having to pioneer
13 in lots of strategies.

14 Anyway, Abby, I want to thank you for
15 making a bigger deal out of land use planning,
16 because you reminded me of something that's near
17 and dear to some of us at the Energy Commission,
18 and to most Commissioners.

19 We'll be pushing land use planning
20 pretty hard in our next IEPR and it doesn't hurt
21 at all to have this group mention it in the
22 context of even the climate connection, so --.
23 Nancy?

24 MS. SKINNER: I don't know if it goes to
25 cross-cutting or not, but the land use also could

1 have a factor on the forestry issues. Because I
2 was struck by, I think it was, we received another
3 report from some affiliates with the forestry
4 committee and indicated that in the 90's
5 California lost more forested land than the
6 previous decade, even though I think timber
7 harvest was pretty comparable.

8 So obviously it was losing that land to
9 purposes other than timber, and it was probably
10 development. So it didn't state what, so I don't
11 know statistically what the impact was, but
12 obviously land use policies would have an impact
13 not only on the transportation side but on the
14 forestry and sequestration side.

15 COMMISSIONER BOYD: That's a good segue
16 to the next subcommittee report, if no one else
17 has a comment on this.

18 It's industrial and ag sector. Robert
19 and Cynthia. Robert, are you up?

20 MR. PARKHURST: Yeah, I think I'm up.
21 So I do have a presentation but I don't know that
22 we need to go through it because it's pretty
23 straightforward.

24 The subcommittee, I think the people
25 around here know who are on the subcommittees, but

1 just to restate, we've got Cynthia, myself, John
2 Bennett, Bob Heald, and Denise. So I want to
3 thank them at the outset for their work on this.

4 The committee came up with three major
5 recommendations. They're pretty straightforward.
6 The first is to encourage energy efficiency, and I
7 think a lot of the discussion we heard this
8 morning from CCAP underscores a lot of that.

9 There was a report from the Energy
10 Foundation in 2002 that said that California may
11 have as much as 96,000 gigawatt hours worth of
12 savings from energy efficiency. And so I think
13 that the focus on things such as fluorescent
14 lighting, high efficiency air conditioning, and
15 more efficient industrial processes can't be
16 underscored.

17 And in some cases I think that intensity
18 standards, such as were mentioned this morning,
19 are a good option for that. In other places
20 voluntary programs such as the Energy Star Program
21 are extremely effective, as we have seen in a
22 number of different industries, and especially
23 with appliances.

24 Another comment that came up quite often
25 was talking about removing barriers to existing

1 technology, and I think that's been underscored a
2 number of times with respect to things such as
3 cement, methane digesters, even a discussion
4 earlier today on fire prevention activities. So I
5 think that's another one that is a great
6 opportunity.

7 Finally, the third recommendation that
8 the committee came up with was looking at new
9 technologies, so from a research and development
10 side looking at new technologies that aren't
11 currently cost-effective and getting them out
12 there and getting people using them.

13 So there are two examples that were put
14 in here, such as concrete houses or better
15 efficiency of housing that is currently out of the
16 cost reach, or research and development that looks
17 at more cost-effective products and services.

18 I'll pause here a moment to see if there
19 are any comments on that, and then we had some
20 specific comments from Bob and his colleagues in
21 the forestry sector. Yes, Ralph?

22 MR. CAVANAGH: If I could anticipate
23 possibly something that Mike may want to point out
24 in this context, because I think he and I are in
25 agreement on it.

1 When we talk about net metering, which
2 I'm happy to do and I support it in many contexts
3 and I'm certainly prepared to look at it in this
4 context if we can find a way to deal with the
5 local air quality issues.

6 But I think it's wrong to call it
7 removing a barrier. It's really about
8 establishing a compensation system, and that's why
9 net metering proponents, of course, want it, so
10 that they have a reliable understanding of how
11 they will be compensated for the cost of the
12 program.

13 From the standpoint of a utility that's
14 involved it's of course also important if it's
15 going to be part of the compensation system, which
16 is what net metering means, that that be done in a
17 way that's fair to all customers.

18 And I just think here we do a disservice
19 if we make it sound as if the absence of net
20 metering is somehow an arbitrary and inappropriate
21 obstacle to something. The decision to make net
22 metering available, which is to say a guaranteed
23 payment at a relatively high level, is a policy
24 decision we've made in many contexts in this
25 state, I think often with very good cause.

1 But we should be clear about what we're
2 doing, and we should be clear about how we're
3 going to pay for it.

4 And then in this context -- and here,
5 John, I just wanted to anticipate a concern that I
6 know you and I both have here -- some reasonable
7 assurance that we're not creating a local air
8 quality problem as we move to support what I think
9 all of us, we got some very good statements in
10 earlier meetings about why this was important to
11 the agricultural community.

12 But I think that's the big open question
13 that still needs to be resolved satisfactorily,
14 are we paying a NOX penalty for doing this, and if
15 so how are we going to manage it.

16 MR. PARKHURST: So, Ralph, if we move
17 that to an incentive as opposed to a barrier --

18 MR. CAVANAGH: Yeah.

19 MR. PARKHURST: Okay.

20 MR. CAVANAGH: -- and then, John, what
21 should be said about the air issue?

22 MR. WHITE: First, on the net metering
23 issue, one of the arguments that's different
24 between solar net metering and digester net
25 metering is that, but that may be similar, is that

1 there are benefits created on the customer side of
2 the meter for the grid.

3 And one of the debates going forward
4 about net metering is what are the nature of those
5 benefits, what are the nature of the costs and so
6 forth, and that requires more transparency and
7 more data than we have.

8 So I think framing it as an incentive
9 will solve that problem in the short term, but I
10 don't think that we can necessarily say that
11 digesters have all the same grid benefits that PV
12 has in terms of where it occurs and so forth.

13 Secondly, on the NOX penalty, the simple
14 way to get around that problem is to strip the
15 sulphur out of the digester gas, as we do with
16 fuel cells that are run at waste treatment plants.

17 There's a waste treatment plant in Santa
18 Barbara that uses a fuel cell. Fuel cells are
19 like advanced emission controls in that they can't
20 have sulphur present because it poisons the
21 cattle. And so the barrier to NOX reduction and
22 to making the digester's engines clean is in fact
23 the removal of the sulphur.

24 And I think there's also some issues
25 with the digesters in terms of the nutrients.

1 There's some debates going on in Kern County right
2 now. So I'm not sure we have gotten the best
3 technology yet to manage manure, and I think we
4 have to keep looking and keep weighing and I think
5 removing barriers and advancing technology and
6 creating incentives might be the package that we
7 want to look at.

8 MR. PARKHURST: Cynthia, do you have
9 anything to add on that, since this is --

10 MS. CORY: No, not me. Jim would say
11 "yeah, she has a pile of it." Um, you know, my
12 response to trying to put a lot of that out here,
13 John, and yo missed some of the meetings and the
14 last meeting when we laid out our concerns was
15 that included in one of our first CCAP reports was
16 the need to put methane digesters on every farm
17 over 500 cows.

18 And so my response was holy you know
19 what, and so -- yeah, holy manure. And so in
20 trying to bring the complexity, and you've
21 addressed it, and there's a lot of problems and
22 it's, as much as we've tried and working with the
23 state closely and the Energy Commission, we've got
24 a dozen methane digesters in this state and
25 they're all, as Jan appropriately pointed out,

1 heavily subsidized.

2 And it's hard for a farmer to run a
3 dairy and also be an energy producer, especially
4 if they're sitting there and not being able to
5 deal with electricity.

6 So I'm not sitting here promoting that
7 this is the way to go, and whether it should be an
8 incentive or a barrier or whatever, it was just in
9 responding. I would love to see it all fit
10 together and us work on it, but I was almost in a
11 reactive mode because of how cement and methane
12 digesters kind of got thrown out there as the
13 poster children. So --.

14 MR. PARKHURST: Seeing no other comments
15 at this point --. One other recommendation coming
16 out of the subcommittee, and they're on the
17 forestry sector, and Bob, let me just throw it
18 right over to you and you go ahead and discuss
19 those.

20 MR. HEALD: Okay, so first, just to
21 remind you all and set the stage, forests occupy
22 about 40 million acres in California, that's about
23 40 percent of the landscape.

24 The good news is that currently on that
25 landscape, forests sequester far more than the

1 industry emits. In fact, at least three times
2 more than the industry emits in the average year.
3 So they are actually contributing to greenhouse
4 gas reductions already.

5 So our recommendations are first, that
6 we establish some targets to protect and increase
7 the state's overall forest carbon stocks and
8 implement voluntary landowner incentive to achieve
9 such targets. This represents a huge existing
10 reduction in greenhouse gas emissions and an even
11 larger potential reduction.

12 Our next recommendation is that we
13 include the crediting of forest based carbon
14 greenhouse gas reductions in any multi-sector
15 greenhouse gas cap or trade system that's
16 established.

17 It's incredibly important that we
18 understand that some form of incentive will be
19 necessary to active the potential increase in
20 carbon sequestration from California forests. And
21 without some formal incentive the existing levels
22 are not going to be increased substantially.

23 MR. CAVANAGH: Only California forests?

24 MR. HEALD: Just speaking to California
25 forests. I think the opportunities are also

1 elsewhere, but speaking to the issue in
2 California, there are tremendous opportunities.

3 These opportunities were outlined a bit
4 in the consultant's report. They show that
5 somewhere between 10 and 20 million metric tons of
6 additional sequestration could occur. We think
7 it's substantially more than that, and at
8 substantially lower cost than the \$10 to \$20 per
9 ton.

10 The reason is that there are substantial
11 opportunities to leverage purchases of carbon
12 credits with other existing initiatives. There
13 are substantial activities in land conservation
14 measures where landowners are on the edge of
15 getting value and putting their land under
16 conservation measures to protect biological
17 diversity that could be leveraged with a small
18 amount of additional funds for carbon
19 sequestration and achieve dual effects.

20 There are substantial areas where
21 landowners are interested in protecting their own
22 forests from fire, whether they are private lands
23 or federal lands, and again the consultants report
24 I think correctly illustrates that some of these
25 actions are actually net carbon emitters because

1 of the degree of thinning that is done to protect
2 the forest from fire.

3 The primary reason that that degree of
4 thinning is done is the economic cost of doing the
5 work to protect the forest from fire. A small
6 amount of value associated with dollars for
7 additional carbon sequestration would allow those
8 forests to not be thinned so heavily. They don't
9 need it for fire protection and you would have
10 increases in carbon sequestration as well as the
11 fire protection.

12 The third area that incentives could
13 work, and these are sort of removing barriers, is
14 that the state's forests are already highly
15 regulated and it's really the process of the
16 regulation that's causing costs to landowners.

17 So changes in policies that would reward
18 landowners who were willing to have higher levels
19 of sequestration in their forest, higher levels of
20 carbon stocks with lower permitting costs could
21 substantially increase the amount of carbon
22 sequestration with added biological benefits.

23 So those are the good news. We thing
24 that, along the lines of land use planning, that
25 requiring a CEQA analysis, including an analysis

1 of the effects of climate change and carbon
2 sequestration changes for proposed land
3 conversions from forest to non-forest land would
4 go a long way towards at least eliminating the
5 real effects of this loss of forest land from
6 changes in the type of land use, whether it's to
7 vineyards, whether it's to commercial development,
8 whether it's to housing development. And the CEQA
9 analysis is the appropriate way to do that.

10 We think that a public education program
11 so that folks would really understand the role
12 that forests play in climate change is important,
13 and we recognize that there's a lot more research
14 work that needs to be done to evaluate the impacts
15 of climate change on California forests and to
16 develop the management and mitigation
17 opportunities that will both protect biological
18 diversity and increase carbon stocks.

19 So those are the good news, and the
20 recommendations are based on those.

21 The bad news, and I want to reiterate
22 this, and no one likes to be the bearer of bad
23 tidings, but because forests occupy 40 percent of
24 the state, the effects of climate change on
25 forests could be even more negative than the

1 possible increases if we don't take action.

2 Increased temperatures will cause
3 increases in catastrophic fire loss if they're not
4 mitigated that threaten to overwhelm not just the
5 forest sequestration but many of the other
6 measures that we've talked about here today.

7 And so if those aren't mitigated, or if
8 we just pretend they don't exist because they're
9 not human emissions, we won't be really doing
10 anything in terms of reducing greenhouse gases.

11 This will be exacerbated by shifts in
12 vegetation type, lower productivity of vegetation
13 types going to higher elevations as climate
14 changes, more fire risk in those vegetation types,
15 etc.

16 There are some opportunities.
17 Paradoxically, increases in carbon dioxide also
18 cause increases in plant growth, and so the
19 opportunity to store additional carbon in forests
20 increases as the greenhouse gas levels increase.
21 So at least there's some synergy to reduce those
22 ejects.

23 But again, if they burn that won't
24 happen. And we also should not dismiss the
25 reality that, as vegetation changes occur and

1 temperature increases there will be huge, huge
2 pressures, perhaps more than anything else, on the
3 state's water storage and transportation system.

4 Most of the water that's used for ag and
5 cities comes from forest lands originally, and as
6 those snow levels increase, snow lines increase in
7 elevation, and vegetation types shift, and
8 additional fires occur, the cost of storing and
9 transporting water in California will increase far
10 more dramatically than the minor cost it would
11 take to mitigate those ahead of time.

12 COMMISSIONER BOYD: Ralph?

13 MR. CAVANAGH: Robert, what, obviously
14 CEQA applies now on its terms to, I would assume,
15 I'm puzzled by the third bullet, any significant
16 conversion of forest to non-forest land would I
17 would think require a CEQA analysis.

18 What's the hole you think you need to
19 fill here?

20 MR. HEALD: The CEQA analysis does not
21 have to include the analysis of the effect of
22 change in carbon stocks, nor does it have to
23 include an analysis of the effect of changes in
24 emission rates of carbon dioxide.

25 MR. CAVANAGH: So what, if I could,

1 you're not really proposing to change the scope of
2 CEQA, you're suggesting that impacts on carbon
3 storage and sequestration are appropriately part
4 of a CEQA analysis in the context in which forest
5 land is being replaced with non-forest uses.

6 MR. HEALD: Correct. And that may
7 require a technical change in CEQA law. The other
8 issue is that the application of CEQA is often
9 debated when it is a "agricultural to agricultural
10 change."

11 However, the change from forested
12 landscape to, for example, vineyard landscape, as
13 much as I like a nice glass of cabernet sauvignon,
14 is an ag to ag change, but it also carries
15 significant changes in the amount of carbon stocks
16 that will be on that site for a long time.

17 MR. CAVANAGH: I would much prefer,
18 particularly since I'm seeing it for the first
19 time today, rather than have this group recommend
20 amending CEQA, which means you throw open the law,
21 and basically you take on all comers before the
22 California Legislature, which is not something I
23 think friends of CEQA are eager to do,
24 understandably.

25 It might be better to see if, through

1 administrative interpretation -- because I will
2 just tell you, I think this is a reasonable
3 request -- I think that CEQA can be readily
4 construed, particularly in an era of increased
5 concern about climate change, to encompass these
6 things.

7 And I think we would be well advised to
8 frame the recommendations in terms of an
9 administrative application of the exiting statute,
10 rather than just suggesting that the statute
11 itself be thrown open again.

12 COMMISSIONER BOYD: Other questions?
13 Comments? In the back of the room. You're going
14 to have to pay the price if you want to talk, come
15 to a mike.

16 Identify yourself?

17 MS. PASSERO: Michelle Passero with
18 Pacific Forest Trust. And I just want to chime in
19 with what Ralph was saying. Appendix G of CEQA
20 has a list where it identifies, it's almost a
21 checklist, and it can probably be done
22 administratively where you can add the forest
23 sector and climate effects.

24 So it may not have to be a legislative
25 change.

1 COMMISSIONER BOYD: Any other questions
2 or comments? Do I take silence to mean a kind of
3 general sense of comfort with -- oops, that got a
4 hand.

5 MR. CAVANAGH: Jim, and just one other
6 thing to note. How forest based greenhouse gas
7 reductions are included in a cap and trade is of
8 course a formidable question. It has been one of
9 the most difficult questions addressing, it has
10 proved to be a very tricky issue in Europe, and
11 the design, as many of you know who have looked at
12 the European system.

13 I don't have any problem with the
14 proposition that you've got to take the issue on
15 when you're designing a cap and trade system, and
16 that it's fairly on the table.

17 I take us here to not be making any
18 suggestion as to how specifically to do it,
19 because the issue of how do you account for these
20 things, how long the credits endure or what kind
21 of an enforcement structure there is, the instate
22 versus out of state dimension, because it's a
23 little difficult to explain why instate carbon has
24 a privileged place over out of state carbon in
25 this particular context.

1 And rather than taking us down that
2 road, if there's a clear understanding around this
3 table that we're not going there, agreeing that
4 this is an issue that is properly on the table
5 when you're looking at the design of a cap and
6 trade system for carbon.

7 And I certainly have no problem with
8 that, but I wouldn't want to go any further than
9 that right now.

10 COMMISSIONER BOYD: Yeah, I noted that
11 the, in the write up the lead-in sentence was
12 "establish," but the first words in the written
13 paragraph were "the state should consider," so
14 there's a bit of a difference that folks might
15 want to look at. Wendy?

16 MS. PULLING: A question. Now that
17 we're talking about forestry, I wonder if the team
18 considered the carbon sequestration issues around
19 not ag and not forestry but sort of everything
20 else, like wetlands, uplands --.

21 Because I know there's a lot of work
22 being done there, and perhaps if we're -- you
23 know, just as Ralph was saying, this should be an
24 issue for consideration, forests, I would suggest
25 that wetlands as well as riparian areas.

1 And it doesn't really fall into ag
2 necessarily, it doesn't really fall into forestry.

3 MR. HEALD: I think that's an excellent
4 point, and we did not explicitly consider those,
5 though they are often one of the elements in the
6 landscape that is most sought after in terms of
7 conservation easements.

8 So the existing protocols for forests
9 really don't focus on that, but adding that
10 element I think would be quite useful.

11 COMMISSIONER BOYD: So, could I
12 anticipate then a few words on that?

13 MR. SMITH: If I can add, you've already
14 done a bunch of work looking at range lands and --
15 yes, you personally. It's on the PIER website.
16 And Winrock did a bunch of that analysis, and
17 agencies have also done a bunch of the analysis.

18 And there are opportunities for
19 restoring range lands where you could get several
20 millions, maybe tens of millions of tons over the
21 next couple of decades.

22 MS. PULLING: I'm interested, I'm sure
23 we mentioned it somewhere in here.

24 COMMISSIONER BOYD: Points well made.
25 Robert, do you have more?

1 MR. PARKHURST: No, that's it from our
2 committee.

3 COMMISSIONER BOYD: Why did I think this
4 part would be easy, and the first part so hard.
5 The power sector. Ralph and Jan.

6 MR. CAVANAGH: The tradition is that you
7 go first, but if you want me to I will.

8 I think that what's important to say,
9 this is divided, at least in my mind, into three
10 parts. There is a recommendation, a set of
11 recommendations that are taken from the discussion
12 at our last meeting with no substantial changes,
13 and that's items one, two, three, four and five.

14 And we can certainly discuss them again.
15 I mean, no one finally assented to them, but each
16 of those was discussed at the last meeting, we
17 went through them.

18 The one substantive change that is I
19 think worthy of note right now is that the, in
20 item five, what was a somewhat longer discussion
21 of cap and trade approaches has been shortened
22 with a reference to the existence now of a Climate
23 Action Team effort that the Governor has
24 established to deal with this.

25 And what is, I hope, an appropriate nod

1 in that direction and a statement of hope that we
2 can be of assistance.

3 Otherwise what you've got, and as you
4 had before, is an endorsement of the California
5 PUC's effort to begin incorporating the financial
6 risks of global warming emissions into resource
7 procurement decisions; a reference to the
8 importance of doing that as a way of protecting
9 California households and businesses from
10 increasingly obvious financial and reliability
11 risks;

12 the effort to get each California
13 utility to adopt an action plan dealing with what
14 it can do to reduce greenhouse gas emissions; the
15 creation of a statewide and regional program for
16 determining and tracking emissions.

17 And so that body of material if you will
18 is pretty much what we discussed at the last
19 meeting.

20 There are two additional items, one of
21 which is I hope a straightforward consensus item,
22 which is simply the acknowledgment that I think
23 tracks all of our discussions over the past year
24 that any policies addressing greenhouse gases from
25 electric generation should treat instate and out

1 of state sources in a non-discriminatory fashion.

2 And I was thrilled to see that at long
3 last the reporting from the group of emissions has
4 I think really done that, and I applaud it.
5 That's Peggy Duxbury's suggestion and I
6 wholeheartedly join it in item six.

7 The final item is not a consensus item,
8 and I will simply introduce it and encourage some
9 discussion. It is whether this group should call
10 out, as I think we did at our first meeting and I
11 now want to raise the point forcefully again, the
12 importance of comparable levels of effort by all
13 of California's utilities in responding to the
14 challenge of climate in general and efficiency and
15 renewable energy investment in particular.

16 What gives me some sense of urgency
17 about -- I don't think that it's framed in an
18 accusatory way, I would maintain that it's framed
19 in a positive and exhortatory way, but I do
20 believe and simply note in this forum that I think
21 I have good cause for believing it, that something
22 of a gap has opened up between the performance of
23 public power as a sector and investor-owned
24 utilities as a sector in California.

25 And I say this as someone who

1 historically views himself as a friend of both, an
2 agnostic as between the two forms of ownership as
3 to which is best. I think either can be best,
4 depending on the circumstances.

5 But what we've got now is a situation in
6 which the Public Utilities Commission has raised
7 the bar for our investor-owned utilities, has set
8 more aggressive targets for efficiency and
9 renewables, and I don't think we have yet seen a
10 response from the public power sector.

11 This was largely a non-issue for the
12 decade following 1996, because public power then
13 stepped up -- and I note it and applaud it for
14 doing so -- stepped up and agreed to be bound by
15 basically the same kind of relative level of
16 effort requirement on efficiency and renewables as
17 private power.

18 The legal requirement in '96 was that
19 both sectors would dedicate comparable fractions
20 of their total utility bills to investments in
21 efficiency renewables, low income services, other
22 public purposes so that there would be no
23 competitive disparity in terms of the impacts of
24 those investments on the cost of electricity from
25 public and private power.

1 What I would observe in 2005 is that I
2 think that at best public power has continued to
3 comply with the 1996 requirement, while investor-
4 owned utilities have moved ahead and raised their
5 level of effort.

6 And there is some risk, therefore,
7 without an admonition of comparable effort by both
8 sectors that a competitive problem could emerge
9 again.

10 And I say that before giving way to her,
11 what I need to say by way of qualification of what
12 I just said is that there is one public power
13 institution that conspicuously has not allowed a
14 gap to emerge, that conspicuously has not tried to
15 gain any sort of advantage in terms of electric
16 service cost by reducing its effort or not
17 competing aggressively with utilities, and that's
18 the Sacramento Municipal Utility District.

19 So she has complete moral and other
20 stature to step up and object to this amendment of
21 mine, and I should acknowledge that before
22 inviting her to add anything she wishes.

23 But I think those are the three things
24 that we have to look at. We've got to look at
25 what we talked about last time, we've got to look

1 at Peggy's straightforward and I hope generally
2 applauded admonition to treat out of state and
3 instate generation in a non-discriminatory way,
4 and then I hope we'll talk a little bit about this
5 question of relative level of effort. Jan?

6 (laughter)

7 MS. SCHORI: Kind of hard to know where
8 to start, isn't it?

9 MR. CAVANAGH: Well, you could agree
10 with everything but the last thing.

11 MS. SCHORI: No, I was going to say --
12 actually we worked collaboratively to try and put
13 this thing together and I do want to thank Ralph,
14 because I was kind of zooming around the country
15 and having trouble with my Blackberry doing e-mail
16 responses with attachments that wouldn't open, so
17 thank you for taking on the --

18 MR. CAVANAGH: At midnight in the Denver
19 Airport.

20 MS. SCHORI: -- yeah, I was stuck at
21 midnight in the Denver Airport e-mailing Ralph.
22 Isn't that everyone's dream.

23 (laughter)

24 MR. CAVANAGH: All of you have done it.

25 MS. SCHORI: At any rate, I -- well,

1 first off, let me make just sort of an overview
2 comment. The single biggest change that's
3 occurred from the original presentation of these
4 concepts to this group for your consideration is
5 the Governor's announcement of an express goal for
6 the state of California.

7 So that is a new event, and that needs
8 to influence what we put together here, because I
9 do think we have a fairly clear statement of
10 policy objective from our top state executive on
11 where we should all be trying to go.

12 With respect to the draft that we have,
13 then, as Ralph mentioned, it went up through
14 number five, and with respect to -- I'll talk
15 about 3B in a moment -- but the proposed item six,
16 we can either do it as an item six, or from my
17 perspective you could actually roll it in to 3B,
18 where we're talking about trying to figure out
19 what everybody's greenhouse gas emissions are.

20 But I am in concurrence with Ralph with
21 respect to the fundamental principle that Peggy
22 enunciated that we do not want to export our
23 pollution to other states, we need to be
24 calculating that in and making our decisions
25 knowingly, so to speak, so that we're not just

1 exporting pollution to other states and increasing
2 the problems from a national perspective on
3 greenhouse gases.

4 So, from my perspective that would be
5 one way to fix that. The other -- but we could
6 leave stand alone six too, it's more of a drafting
7 thing -- under number three, I was wondering, and
8 I haven't even had a chance to ask Ralph about
9 this one, but right now it says "every utility" --
10 and I will say there are some minor edits in the
11 language --.

12 The drafting language that we did
13 change, in response to some of Ralph's concerns I
14 had proposed that we make it very clear that we
15 are talking about an overall state goal that needs
16 to be met by public power and investor-owned
17 utilities, that's why you now see the language
18 that says expressly "each kind of utility needs to
19 have a plan."

20 The Energy Commission can do one for,
21 either that or I was thinking either SCAPA or NCPA
22 might do it for either of the small
23 municipalities, keeping in mind that it's always a
24 challenge, because there's more than 30 of them,
25 trying to come up with a single fix for everyone.

1 But I was thinking we could add "should
2 develop an action plan to meet the Governor's 2010
3 and 2020 goals," so that we're expressly stating
4 what the objective is, and it eliminates some of
5 the ambiguity about what we're trying to
6 accomplish, now that we have a state goal.

7 So that will bring me then to Section 3D
8 as it's been proposed by Ralph, and I did talk to
9 him a little bit about this.

10 From my perspective I wanted to find the
11 comparability, if that's the way to characterize
12 this, as meeting the Governor's overall goals.
13 And that I think it's reasonable that public power
14 needs to play a role in doing that, I don't know
15 that my fellow muni's are all quite there, but I'm
16 working on them to get there.

17 And so rather than getting into what is
18 kind of an age-old debate about competition
19 between public power and private power, I am not
20 in support of this language about looking for
21 competitive advantages.

22 Instead I'd like to frame this from the
23 state's perspective that there is an overall goal
24 that we're all trying to achieve that has been
25 laid out by the Governor, and that all segments of

1 the industry need to try and work towards doing
2 that.

3 And the first stage is going to be to
4 get this action plan developed, and for me at
5 least to key part of this action plan is trying to
6 figure out -- first off, just get the database set
7 up, and then secondly try to come up with the
8 least cost solutions that work.

9 And they may be different depending on
10 where you are in the state. Again, I'm not quite
11 sure there's a one size fits all. I talked to
12 Josh a little bit at lunch today because one of
13 the things we'll have to think through as we go
14 forward is do your fixes only come out of the
15 power sector or do you go deal with greenhouse
16 emissions if you're a power utility in the cement
17 industry or someplace else if that's the most
18 cost-effective solution to help meet this goal.

19 Right now I think it's a little
20 premature to try and figure out what the answer
21 is, but I do think that the obligation should be
22 there to develop a plan, have everybody figure out
23 what are the most cost-effective solutions, and
24 then at the end of the day we have to figure out
25 how much money we spend out of the power sector

1 trying to achieve these goals.

2 And I'm not sure I have a good handle on
3 that. As I mentioned earlier this morning, my
4 understanding is, at least for resource planning
5 purposes that I think the PUC is using -- you said
6 \$8 to \$25, but \$8 as the original? We're looking
7 at a lot of price spread on different options that
8 are out there, and I for one, to commit SMUD to
9 doing something like this want to have my expert
10 staff guys go figure out what's the most effective
11 way for us to get there.

12 But I, at least on behalf of SMUD,
13 support the concept that the whole industry needs
14 to go after this goal. I just would prefer not to
15 frame it in terms of competition between IOU's and
16 public power, because I don't think that's really,
17 for purposes of this report, what it's about.
18 This report we're trying to accomplish what the
19 Governor has set up for the whole state.

20 MR. CAVANAGH: Could I then, in seeking
21 unanimity on this point try the following. You
22 would propose to add the words "to meet the
23 Governor's goals" after "should develop an action
24 plan."

25 MS. SCHORI: Yes.

1 MR. CAVANAGH: And if we put that in and
2 then we remove the offending phrase "certainly no
3 utility should seek or achieve a competitive
4 advantage", would you then be okay?

5 So that we are then simply on record as
6 saying that utilities should assume comparable
7 responsibilities.

8 MS. SCHORI: Well, I guess I was trying
9 to avoid the phrase "comparable responsibilities"
10 because I was trying to address that -- since
11 that's a little more vague, what I was trying to
12 do was get something very specific, which is every
13 utility needs to have a plan to deal with its
14 share of getting to the Governor's goals, develop
15 a baseline.

16 But I will give you as an example,
17 you've got little teeny weeny Healdsburg, which is
18 almost 100 percent renewable energy as I recall,
19 and then you have maybe Anaheim, which has a lot
20 of coal. There are going to be different answers
21 at the end of the day and I'm not quite sure that
22 I'm ready today to commit.

23 I don't know what "comparable" means I
24 guess, but at the end of the day we should be
25 measured by the Energy Commission, they're in here

1 as kind of the public reporting house, to see are
2 we getting where we need to be getting from a
3 state perspective.

4 And I recognize there will be others who
5 want to comment on this, but that was the
6 advantage of me being a co-chair, I got to go
7 first, so --.

8 COMMISSIONER BOYD: Okay. Thank you,
9 comments, questions?

10 MS. PULLING: I have a question for Jan
11 and Ralph, and I'm wondering what you all think,
12 or what conversation you had with Peggy and others
13 about the competitive advantage issues if you will
14 that California may face ultimately, hopefully
15 soon, when federal regulation does kick in to
16 force.

17 And I certainly don't have an answer
18 there, but I'm just wondering if this paper is a
19 place to flag the potential anyway, to flag the
20 concept that we certainly don't want to be doing
21 anything as California in the power sector that
22 could put us at a competitive disadvantage when
23 the national, other companies are regulated.

24 So I'm just curious if you guys gave
25 that much consideration?

1 MS. DUXBURY: Well, it's, I mean, it's
2 something that I was going to raise as well,
3 although I actually see it -- it was the subject
4 of a lunch conversation that Bob and I had, that
5 where California sits today we actually probably
6 have a competitive advantage as a state if the
7 country moves towards a more carbon constrained
8 future.

9 And I was writing down some statistics.
10 Our power sector emits about .66 pounds per
11 megawatt hour of CO2, the national average is
12 1.46. So we're about 55 percent lower in our
13 carbon intensity than the rest of the country.

14 So if a manufacturer faces a future cost
15 to carbon, California is probably a better place
16 to be located than perhaps Ohio or Indiana.

17 MS. PULLING: What happens though with
18 the baseline issue where we improve on that
19 megawatt per hour, what can we as California do to
20 protect our collective baseline so that --

21 MS. DUXBURY: I think that's the
22 challenge going forward, and then it gets back to
23 how do you structure a cap and trade program in
24 the future that's national in such a way that it
25 recognizes those early movers, such as a

1 California.

2 How do you reward, I mean the efficiency
3 has basically stayed the same in California and
4 other places in the country, efficiency has gone
5 up, or energy consumption has gone up, what, 50
6 percent or something, per capita, and I suppose
7 that means that it's important that California, in
8 the national debate, makes sure that it doesn't
9 disadvantage itself for the early action that it's
10 taken as a state.

11 MS. DUXBURY: I think potentially some
12 kind of language in here that just kind of flags
13 it generally, whether you want to call it credit
14 for early action or protect a baseline, whatever
15 it is, so that the early movers --

16 MS. SCHORI: That's a good point,
17 because, at least I was told that the new European
18 system that was rolled out, they did not do that,
19 and everybody was basically assigned the initial
20 allocation of allowances based on their current
21 emission levels.

22 So people who had gotten out ahead in
23 essence got no recognition for that, and if
24 anything started from a shrunken base, where maybe
25 some of the cheaper fixes had already been done,

1 and they were looking then only at the higher cost
2 alternatives.

3 And that's consistent with state law, at
4 least the Climate Registry, that the goal is to
5 ensure that you get credit if you're taking action
6 ahead of some kind of national or regional scheme.

7 MR. PARKHURST: I think you can also see
8 it as an advantage for businesses. I mean, this
9 is what Peggy and I were talking about, was that
10 California has the fifth cleanest energy portfolio
11 in the nation.

12 And so I think that, when it gets to a
13 point of deciding where you're going to locate a
14 business, rather than moving across the border to
15 Nevada in the future people would choose to move
16 back to California.

17 I think having something like that in
18 there makes some sense.

19 MS. DUXBURY: Yeah, and maybe one way we
20 can deal with it in this process isn't so much
21 that this is a risk, but this is one thing that
22 California, California businesses, have an
23 advantage in looking toward the future with the
24 likelihood of CO2 regulations, and perhaps just
25 state some of these statistics to put them out

1 there. As a good start.

2 MR. CAVANAGH: Yeah, it would be
3 terrific, for example, if the California Energy
4 Commission and the PUC would just together
5 calculate the potential downside of being in a
6 more carbon-intensive jurisdiction compared to,
7 using Peggy's numbers.

8 The differences are dramatic in terms of
9 collective exposure to future economic damage if
10 you're in a low carbon state versus a high carbon
11 state.

12 The only thing I'd suggest here,
13 California has nothing to fear from national
14 limits on carbon, I would submit to all of you,
15 almost regardless of how the allocation scheme is
16 done. We will be winners.

17 It would be nice to be even bigger
18 winners. So I would have no problem with calling
19 out to our representatives the importance of
20 making sure that the deal is struck in a way that
21 recognizes California's early action.

22 But I think everyone around this table
23 knows, most of those early actions were taken for
24 reasons independent of carbon. They were taken
25 for reasons having to do with reducing energy

1 costs and improving fuel diversity, and they were
2 well worth taking with or without a carbon
3 dividend at the end.

4 We should try to make sure we get the
5 carbon dividend too.

6 MR. WHITE: On that last point, my sense
7 is that when we talk about competitive advantage
8 and disadvantage I want to make it clear that I
9 think the competitive advantage is to being
10 cleaner sooner, particularly given the price of
11 fossil fuels, the competitive advantage lies with
12 investments in efficiency and renewables.

13 And anyone who thinks they're getting a
14 competitive advantage by not doing those
15 investments I think is sadly mistaken.

16 My friends at the LA Department of Water
17 and Power miscalculated their future gas costs,
18 didn't hedge, cut their efficiency programs, and
19 raised rates, without calling it that.

20 So I think it's important that we not be
21 defensive in our thinking, and particularly that
22 there is virtue to continuing to do what the state
23 has already done, particularly if we can do it in
24 a way that accentuates our competitive advantage.

25 The specific suggestion I wanted to make

1 is in number four on this list. I'd like to cull
2 out a little more specifically the virtues of
3 coordinating with the Western Governor's
4 Association in the development of the WREGIS
5 tracking and verification system, which I think is
6 a place where we can meet our colleagues in the
7 western states halfway, because they see advantage
8 in the WREGIS program as a way to sell us their
9 clean, renewable power.

10 It also may be a way for us to get them
11 going forward on inventories and compatible goals.
12 Because I do think that -- this is part of the cap
13 and trade discussion -- but to the extent that we
14 could get harmonized inventories and the ability
15 to make the reductions fungible across state lines
16 there would be some advantage.

17 So something that might reference the
18 WGA's work in this area, and that the California
19 Energy Commission is working with them in the
20 development of the tracking system. But I just
21 think some encouragement to broaden ourselves into
22 the western region.

23 We have the West Coast Governor's
24 Climate Collaborative, the WGA Clean Energy
25 Initiative for 30,000 megawatts of clean air.

1 Those two initiatives together might be referenced
2 in this section as a sign of progress we want to
3 continue on.

4 COMMISSIONER BOYD: Nancy?

5 MS. SKINNER: Just a question for the
6 committee, I wondered if there had been any kind
7 of discussion or evaluation of using a mechanism
8 like the state of Oregon has. I mean, it's
9 somewhat like what the PUC is recommending around
10 the carbon adder, but it is slightly different in
11 terms of the charging just a higher amount for
12 western electricity generation that goes over a
13 certain amount of emissions.

14 And was the issue primarily the problem
15 with interstate commerce? Because I think that
16 Oregon has now managed to apply it -- did they
17 apply it only on instate generation or --?

18 MR. CAVANAGH: Oh no, it's instate only,
19 and I'll tell you why I personally strongly
20 prefer, Nancy, the PUC approach. The Oregon and
21 Washington approaches apply only to new generation
22 constructed in their states, and there the charge
23 a small premium for carbon above a performance
24 standard, as you said.

25 The PUC policy is applying to carbon

1 equally, and it's not just -- I think Oregon and
2 Washington have created a small tax on new
3 generation, and from my perspective -- this is
4 not, I mean, with great respect to my friends at
5 Oregon and Washington, who mean well in this
6 regard.

7 It is not a step forward to put a small
8 tax on new generation when you are leaving the
9 incumbents scott free, when you're doing nothing
10 to address existing fossil generation.

11 And I think the PUC's approach, which
12 treats all fossil emissions the same as our
13 principle calls on it to do, in and out of state,
14 is absolutely the right way to do it, and I wish
15 Oregon and Washington would follow us on this one.

16 COMMISSIONER BOYD: Mike?

17 MR. HERTEL: Just a few comments.
18 Ralph, in admonition to making some comments, I
19 did prepare some. And I thought I'd pass them
20 out. I didn't know exactly how to go about this,
21 so I figured --

22 MR. CAVANAGH: But I figured you'd like
23 3D.

24 MR. HERTEL: Yeah, that's great. What I
25 tried to do here was just go down this graph and

1 make lineated comments so that you would have some
2 feedback, because I haven't had a chance to review
3 this with all of my senior management, so I'm not
4 in a position to take a hard and fast spot on
5 this.

6 But the first thing I want to do is make
7 it clear that I don't think that our company could
8 share in the representation of these views. In
9 fact, I'm certain of that.

10 We're going to continue to look at this
11 strongly and try to give feedback, but if the time
12 has come, Jim, for closure on this, we'll
13 perfectly understand that. We just want to get on
14 the record with our current comments.

15 With respect to the first paragraph,
16 this financial risks issue, as has been widely
17 noted today, the PUC did adopt the greenhouse gas
18 adder for new procurements in the investor-owned
19 world.

20 And so I'm hoping that what you meant by
21 this was to apply to all the rest of the world,
22 and I don't think it's just the municipals, I
23 think it's all load-serving entities, including
24 community choice aggregators, and we should be
25 universal in our application of that kind of a

1 term.

2 And number two -- and I had to split
3 them on the page because my comments were so
4 interminably long that I couldn't put them on one
5 page. But on number two, while I don't have any
6 objection at all to commending the action of the
7 PUC, the demand cap concept that we're still
8 entertaining here, and quite seriously I believe,
9 raises some really large concerns for us in terms
10 of the cost of going in that direction and how
11 those costs will be absorbed.

12 And our concern is that if you did such
13 an approach, most LSE's, and I believe all either
14 through law as with the investor-owned utilities,
15 and I believe the municipals, but also through
16 contract if you're a private LSE, you have an
17 obligation to serve demand.

18 So if that demand exceeds whatever cap
19 the state chooses to set, then there's a
20 difference that will have to be made up either
21 through a payment of some sort of a penalty for
22 excess or by going and getting power, assuming
23 that it could even be found, that would be
24 considerably more expensive than the power that
25 you're replacing from the grid.

1 And a real concern I have is how do you
2 handle those costs. First, what are they? And we
3 don't even know at this stage of the game, and
4 that's why I'm tremendously interested in the
5 modeling that's being done.

6 I think that's to be commended, but we
7 need to be very careful that we get a very clear
8 and objective understanding of how much that cost
9 is going to be, whether it's to meet the
10 Governor's goals or some other set of goals. And
11 there is at least one other set that's being
12 entertained by the Legislature.

13 So, I'm concerned that, if it's a
14 penalty that we pay for exceeding that greenhouse
15 cap, and we pay that penalty, in the IOU world
16 that cannot be passed on to our ratepayers.
17 That's a shareholder cost.

18 And someplace that cost has to come home
19 to roost or I believe we'll find ourselves
20 potentially in the same kind of electricity crisis
21 situation that we did before by attempting to
22 ignore some of these externality costs that have
23 to be internalized.

24 MR. WHITE: Could you explain that last
25 point?

1 MR. HERTEL: Yeah, because if you set a
2 cap, John -- I'm assuming the cap is going to be
3 below the demand, that's a fair assumption I
4 think. Does that make sense to you?

5 MR. WHITE: Well, except that the nature
6 of the emissions depends on the means of producing
7 the power.

8 MR. HERTEL: Well, the point I'm trying
9 to make is, right now what we see is that we have
10 a certain percentage of our power imported from
11 outside the state. And everybody's correct in
12 saying that the greenhouse gas intensity of that
13 power is higher by a factor of 50 percent higher
14 than what we have here in the state.

15 So, now, if I'm going to set a cap
16 inside the state that applies to all that power
17 I've got to replace, I either have to do it by
18 replacing it with natural gas, renewables,
19 something of that nature, all of which is more
20 expensive than the power that I'm replacing.

21 MR. WHITE: Maybe.

22 MR. HERTEL: Well, I don't know how
23 you'd make any other argument at this stage of the
24 game, and for the foreseeable future.

25 MR. WHITE: Okay, but, I'll reserve the

1 right to make that argument. I just want to know,
2 I want to know how this causes the power crisis to
3 develop.

4 MR. HERTEL: Okay, so the cost then
5 differential for making up that power. First, I
6 have a question as to whether we could find that
7 amount, depending on what the cap is set, but
8 assuming you could, then the cost of that
9 replacement power has to have a home. That's all
10 I'm suggesting.

11 If that home is in a penalty, then I
12 cannot pass that cost along to my ratepayers. So
13 I'm flagging this as a significant issue, because
14 I think the point would be that if there was a
15 cost associated with meeting the cap that cost
16 needs to be borne by the consumers who demand the
17 power, and who's obligation it is on my part to
18 serve, and not to rest with the shareholders of
19 the private investor-owned utilities who cannot
20 bear that burden differential.

21 MR. WHITE: And how does that cause the
22 power crisis?

23 MR. HERTEL: It depends on how big that
24 cost is. If the cost is extremely high and you
25 try to load that cost on to the shareholder

1 instead of the ratepayer, then that cost could be
2 significant and could cause financial difficulties
3 for the companies.

4 If you're cutting the carbon intensity
5 down to where California is, I'd say that is very
6 likely, especially in the longer term of these
7 goals that are being set, to be a significant
8 issue. I don't know, but I'm flagging it as a
9 concern and suggesting that the modeling needs to
10 be done and done carefully before we leap into
11 that breach.

12 On number three, which is the further
13 actions to reduce greenhouse gas emissions, we
14 suggest that these action plans, again, ought to
15 be done by all the load serving entities, and it's
16 also the generators, the private generators, who
17 ought to respond to that kind of proposal.

18 MS. DUXBURY: Mike, I was going to say,
19 I think IPP's should be a part of that too,
20 Independent Power Producers, on number three.

21 MR. HERTEL: Okay. And on part C
22 there --

23 MR. CAVANAGH: I guess, to the extent
24 they sell it retail. If they don't have retail --
25 the purpose here is to address all the entity

1 selling retail, you're absolutely right, the load
2 serving entities --

3 MR. HERTEL: To the extent they sell
4 retail.

5 MR. CAVANAGH: Right, but if --

6 MR. HERTEL: If they don't then it's not
7 important.

8 MR. CAVANAGH: Okay.

9 MR. HERTEL: Again, in part C, where
10 you're talking about --

11 MR. CAVANAGH: On three you actually
12 start by, some nervousness about reductions. You
13 do support the Governor's targets, don't you?

14 MR. HERTEL: No, not necessarily. I
15 don't know whether those targets could be achieved
16 at a cost that our company could stand up and say
17 made a good deal of sense. We don't know that at
18 this stage.

19 The thing that we're calling for is to
20 try to do some analysis before we support those
21 goals, to understand what the cost of
22 internalizing and meeting those goals really is.

23 MR. CAVANAGH: Okay. So Edison doesn't
24 know what it's position is yet, but it's still
25 checking.

1 MR. HERTEL: No. We're looking at it.

2 MR. CAVANAGH: With the hope that, it's
3 still possibly that Edison will support the
4 Governor's targets?

5 MR. HERTEL: You can always hope, Ralph.

6 MR. CAVANAGH: Yeah, okay, good. I'm
7 very hopeful.

8 MR. MARGOLIS: Mike, your support is
9 reserved regardless of whether or not the
10 reductions come instate or out of state?

11 MR. HERTEL: Correct. It's tough if you
12 go just instate. I'm going to skip to number four
13 to speed this up. The western region that I think
14 we should talk about is the WECC, the Western
15 Electric Reliability Council, the 14 states there
16 are interconnected electrically, and the
17 difficulty of trying to do something to bar
18 emissions that just come in to our state from that
19 region electrically is very significant.

20 And I think it's not enough to say well,
21 we think it's going to be a politically hard sell
22 to go to those other states and try to convince
23 them that this is a problem that needs to be dealt
24 with.

25 I think the converse of that is it's a

1 very difficult problem to try to figure out how to
2 prevent the existence of those emissions, if we
3 try to do it unilaterally. I don't see how that
4 can actually be done.

5 So we, while we support a national
6 program, and that's our first choice if we're
7 talking choices that, if we're trying to deal with
8 the emissions from the electricity sector it makes
9 sense to us to try and do that at a national
10 level. It doesn't make sense to us to try to do
11 it unilaterally.

12 But having said that, the next best
13 choice is to try to do it within the
14 interconnected electrical region of the 14 western
15 states.

16 The next point, on number five, is the
17 one I made earlier. It's simply that, if you
18 discard that piece of advice and you're still
19 going to do it unilaterally, then a multi-sector
20 approach rather than a sector by sector approach,
21 is by far the most efficient way to go, and we
22 think that makes a good deal of sense.

23 MR. CAVANAGH: Mike, I think for item
24 four, WREGIS is, I believe -- John, I think I'm
25 right about this -- WREGIS is intended to cover

1 the entire western interconnected.

2 MR. WHITE: I believe that is the
3 intent.

4 COMMISSIONER BOYD: Yeah, and WECC
5 actually crosses into Mexico, crosses into Baja,
6 which is a piece of Mexico. Which gets to John's
7 earlier point, because WREGIS has been an
8 international benefit, if people want to start
9 pushing it out some day in the future.

10 I mean, internationally.

11 MR. WHITE: Well, I don't know how far
12 California --

13 COMMISSIONER BOYD: Well, you've got
14 British Columbia and you've got Mexico, so --.

15 MR. HERTEL: You do have British
16 Columbia and Mexico, and I don't know how far one
17 could go in that respect. But I do think that if
18 you're going to try to cap electrical emissions
19 and do something about that then I think you have
20 to go at it in the interconnected electrical
21 system, otherwise I really do see a tremendous
22 leakage problem, and one that will be impractical
23 to solve in any reasonable way.

24 So that's pretty much where we stand.

25 COMMISSIONER BOYD: Do you have any

1 other folders there with papers in them?

2 MR. HERTEL: I've got other folders,
3 Jim, but not with more papers in there. These are
4 all the papers you sent me.

5 COMMISSIONER BOYD: Well, now I'm
6 looking to the committee co-chairs for some
7 coaching to --

8 MR. CAVANAGH: In terms of what I think
9 is straightforward, and so I want to look at Mike,
10 and see if I can get at his core concerns.

11 Of course the proposal here doesn't get
12 at any issues surrounding the design of a load
13 based cap and trade. So the recommendation here
14 is look, we want to commend the Commission for
15 what it's done, and I think Mike is right that
16 ought to be done by all entities serving retail
17 load.

18 So that's something, I think we ought to
19 do it. I think we ought to be clear that when
20 we're talking about tracking greenhouse gas
21 emissions we're talking about the western
22 interconnect.

23 And we'd like to see that system
24 strengthened, and we'd like to support the WGA and
25 WREGIS efforts to do it.

1 And Mike, what I'd like to see if you
2 could go along with, for purposes of just getting
3 this thing closed, I don't propose to get into the
4 issue of a load based cap and trade and needs
5 recommendations at all, and my one feeble effort
6 to do it the first time around was removed after
7 you objected in April.

8 So, I think all of the points you've
9 raised are important points if and when we get
10 around to opining together about a load based cap
11 and trade, but we're not doing that here.

12 MR. HERTEL: Well, I think we are, I
13 think that's definitely part of what's on the
14 table.

15 MR. CAVANAGH: But not in these, these
16 recommendations are for the power sector, let me
17 just be very -- if there had been a recommendation
18 for load based cap and trade, Ms. Schori would
19 have been out of her chair some time ago, I'm
20 willing to bet.

21 All there is are action plans to meet
22 the Governor's targets, it's take the financial
23 consequences into account, it's tracking of
24 emissions westwide.

25 MR. HERTEL: I don't think that this

1 report makes any sense if it doesn't take into
2 account the issue of whether meeting the
3 Governor's goals has been analyzed in terms of the
4 cost impact and the impact on our economy.

5 And I don't think it's fair to say that
6 we're not considering a demand cap and trade, at
7 least, I've spent several hours on the phone going
8 over exactly that kind of thing, and I --

9 MR. CAVANAGH: No, no, it is an option,
10 it is clearly an option among many that the Energy
11 Commission is collecting information on and that
12 I'm sure will be of great interest to the
13 Governor's Climate Action Team.

14 But what's in front of you here, in
15 terms of just some proposals to send back from the
16 committee to the Energy Commission, does not
17 include any content on a load based cap and trade.

18 MR. HERTEL: Well, I won't repeat
19 myself. I believe that's not valid. By not
20 stating it here does not take it off the table.

21 MS. SCHORI: The way that I would
22 respond to that is, because Ralph is right, he and
23 I kind of did the tap dance on this issue, trying
24 to figure out how to make a point that would move
25 us forward while not necessarily understanding

1 fully the cost consequences in terms of rates or
2 the economic impact on California fully, meeting
3 all the objectives that have been stated by the
4 Governor's new policy.

5 So from my perspective the target has
6 now, or the line's been drawn in the sand if you
7 want to call it that, by the Governor. The Energy
8 Commission clearly now has to respond to that.
9 This group is supposed to advise the Energy
10 Commission.

11 And my recommendation to the Commission
12 would be to get the utilities to develop an action
13 plan that tries to identify the most cost-
14 effective -- you know, first identify what your
15 emissions are, and then secondly come back and try
16 to figure out what are the most cost-effective
17 solutions.

18 At that point, the Commission, the PUC,
19 my board, whoever's the one that has to be the
20 ratemaking overview, is going to look at that and
21 try to figure out okay, now, can we do it within
22 the cost parameters that we previously have,
23 namely our renewable commitments and other actions
24 that are effectively having an impact on climate.

25 Or do you need more money, and if so how

1 much more, and what does that do to your rates,
2 and at the end of the day the state policy makers
3 have to weigh that against the economic
4 dislocation of the potential clamor that this is
5 unfriendly to business or whatever the arguments
6 would be against it.

7 So this to me was just the first stage,
8 which was to have everybody go figure out what the
9 emissions are, what are we forecasting them to be,
10 and then come in with some sort of plan that tries
11 to identify what would be the most cost-effective
12 solutions to that.

13 Because I have a lot of the same
14 concerns that you're identifying and at the end of
15 the day we'll find out if we can afford to have
16 our cake and eat it too and accomplish everything
17 we want to, and can we do it on the timeframe
18 that's been set out.

19 But I don't know how we can ignore the
20 Governor's policy statement. That's clearly what
21 the state has said, he has said on behalf of the
22 state that that's where we want to go, so if
23 you're in the power business it seems to me you
24 want to try now and figure out okay, that's what
25 he wants us to do, how much is it going to cost,

1 how quick can we get it done --.

2 MR. HERTEL: I'd be happy with that.

3 MS. SCHORI: Well that's what I thought
4 we've got, but --.

5 MR. CAVANAGH: Why don't we clarify that
6 the advisory committee does not have a unanimous
7 view on the merits of a load based cap and trade,
8 and takes no position on it.

9 MR. HERTEL: No, I was suggesting I'd be
10 happy with the way that Jan just explained the
11 position, that a staged approach where we look
12 first at the action plans that are being suggested
13 here and have already been suggested by the PUC,
14 in fact ordered I believe, across the board.

15 If people would commit to that, across
16 the sector, do an action plan, come up with a list
17 of what we think are cost-effective steps of what
18 we think can be done with those steps, and then
19 compare that to the Governor's goals and what more
20 would be needed, assuming that there's some sort
21 of proration that goes on there between the
22 sectors, which I'm not clear about, but assuming
23 that were done then I think we could assess how
24 much that would cost and that would be fine.

25 MS. PULLING: Let me just toss something

1 out, since I think I missed every single
2 subcommittee call, but I was on leave, so --.
3 But, on number five, since we know that the
4 climate Action Team, the Governor's team, is
5 setting up a sub-group on cap and trade, so we
6 know that it's being considered, what about if we
7 say on number five the advisory committee supports
8 consideration of the idea of a well-designed
9 multi-sector cap and trade program and we offer to
10 help in any way we can.

11 So, Mike, you're not necessarily put in
12 the position of having to support cap and trade
13 but rather gee, since you're doing it anyway, Mr.
14 Governor, we support you.

15 MR. HERTEL: I don't necessarily support
16 that.

17 MS. PULLING: But you do, you support
18 considering the idea --

19 MR. HERTEL: I don't mind consideration
20 of it --

21 MS. PULLING: Right, that's what I'm
22 saying. You support further economic analysis,
23 etc., so this is just saying that you would
24 support further consideration.

25 MR. HERTEL: I would be glad if we had

1 something that said we support the analysis of
2 whether a well-designed cap and trade program
3 could help us achieve those goals and at what
4 cost, so that before --

5 MS. PULLING: That's right.

6 MR. HERTEL: -- we get into a position
7 where we try to order these things --

8 MS. PULLING: Right. None of us want to
9 sign a blank check.

10 MS. DUXBURY: Maybe you could try to
11 come up with language for a revised number five
12 along those lines, and perhaps even saying the
13 committee was divided in recognizing specifically
14 a cap and trade specifically for load serving
15 entities. Would that ensure --

16 MR. HERTEL: I'll shoot something to
17 Ralph.

18 MR. CAVANAGH: Well, look, a certain
19 amount of humility is in order. The Governor has
20 set up his own structure for dealing with cap and
21 trade.

22 I actually would like to try this right
23 now, and to suggest, Mr. Chairman, the following
24 way of handling this. If Mike thinks that the
25 group could be construed as making a unanimous

1 recommendation for a load based cap and trade
2 applicable to the power sector, although we
3 haven't done that, I have no problem making that
4 explicit.

5 What I'd like to suggest that we try is
6 we make that explicit, we make it clear that the
7 statewide and western regional program for
8 determining and tracking greenhouse gas emissions
9 is referenced to the WGA and to the western
10 interconnect.

11 That the point is inserted about all
12 load-serving entities being covered by the
13 policies we are endorsing, which have to do with
14 taking financial risks into account associated
15 with greenhouse gas emissions.

16 And that we indeed indicate on item five
17 that what we're encouraging is the consideration
18 of these ideas and making ourselves available as a
19 task force to help them do it. I think that's at
20 this point where we should be.

21 And then if anybody still feels the
22 necessity to add a separate statement I would
23 make, Mr. Chairman, the same statement -- all of
24 these presumably have to be recirculated. There
25 are some various modest amendments to all of the

1 task force reports.

2 Let me suggest that these changes be
3 made, that the chairs be responsible for making
4 them, and anyone who wishes to append a statement
5 indicating reservations or concerns be allowed to
6 do so, so that there is no imputation of these
7 views to anyone who doesn't wish to have them
8 inputted.

9 And that we then go ahead, because given
10 what I understand to be the Energy Commission
11 schedule, that's about what we can do at this
12 point, we aren't contemplating re-assembling to
13 try and get a new consensus on language.

14 And so what I would --

15 COMMISSIONER BOYD: You captured the
16 essence of where I thought we would go at the end
17 of the day, with what we would do next, so I would
18 agree with that.

19 I've tried not to jump in here too much
20 because the Committee and the -- as a whole and as
21 well as subcommittee members -- needed to talk
22 this out.

23 But I think there is a desire to be
24 consistent in this report with the position taken
25 before lunch today on the cap and trade issue,

1 which was you're not embracing it but it certainly
2 deserves being looked at among the many
3 strategies.

4 And it's my understanding, being a
5 little bit closer to what the Governor's charge is
6 and why the cap and trade group was created at Cal
7 EPA, is that there is no commitment anywhere to
8 cap and trade yet.

9 They are looking at cap and trade just
10 like we all were looking at cap and trade.
11 Because you can't seem to have a discussion of
12 climate change in any sector thereof without cap
13 and trade coming up as one of the possible and in
14 some cases even more possible viable control
15 strategies, approaches that would be addressed.

16 But there is no commitment in this group
17 or at the state level that cap and trade would be
18 employed. Obviously in certain areas it seems
19 more attractive than others.

20 And quite frankly, if I'm reading my,
21 the Energy Commission's signals correctly, when
22 California, under the auspices of the Secretary of
23 Cal EPA, looks more deeply at various strategies,
24 you'll be continuing to deal with the Energy
25 Commission in the power sector analysis and our

1 friends at the PUC need to be probably in the room
2 as well, because these are the two agencies most
3 intimately involved with the electrical sector, or
4 the power sector, whatever you choose to call it.

5 So although I can't commit the Advisory
6 Committee per se to much beyond mid-August, in one
7 form or another the dialogue will still be around
8 tables in this room or in your room or what have
9 you on the subject, and I don't think we're
10 committed to any point of view just yet, other
11 than this is an area, one of the big ticket items
12 that has to be pursued.

13 I don't know if I helped at all with
14 that or not, but I think I was agreeing with Ralph
15 and you who wanted to modify the language, and not
16 to get nailed down with any particular position
17 but to be fairly strong about what needs to be
18 looked at in a particular area.

19 MR. CAVANAGH: So to clarify, Mr.
20 Chairman, what I was going to propose is that the
21 chairs be charged, if you would issue the charge,
22 within some very short period of time to
23 recirculating these statements to reflect the
24 comments presented this afternoon, with the
25 members having the option to add any additional

1 comments they wish.

2 And then the question for you is in what
3 period of time does that need to be complete in
4 order to be useful to you?

5 COMMISSIONER BOYD: Okay, this meeting
6 might end a lot sooner than I thought it would
7 based on this dialogue. The general public,
8 they'll be in this room tomorrow, the IEPR
9 Committee of the CEC will be having its IEPR
10 hearing on climate change, in which we'll hear a
11 lot of what was reported today.

12 The affected public, the general public,
13 has until July 22nd to make its comments. Since
14 this group is an appendage of the Energy
15 Commission at the moment, so to speak, I was going
16 to give the group until August 19th -- is that
17 what we talked about this morning? -- to wrap up
18 this work, and we'll use our legal prerogative to
19 see that it's "docketed" into the docket of the
20 IEPR hearings, which is the way we have to deal
21 with this stuff in order to include it in our
22 proceedings and our draft report and ultimately
23 whatever goes into the final report.

24 So, hopefully that gives the committees
25 adequate time to digest the material that you've,

1 you know, the discussions we've had today, and
2 reach a consensus amongst yourself.

3 I am not considering -- well, I think
4 Ralph captured it very well, and we didn't even
5 rehearse this, Ralph. I was not considering
6 pushing you to the point of what might have been
7 the dream a year ago of an Advisory Committee
8 consensus recommendation to the CEC.

9 That was really a dream of sort, knowing
10 how complex this area really is, and some of you
11 smiling at the table have been in discussion for
12 years in discussion about this subject, so it was
13 highly unlikely, but California can do it some
14 times, reach a greater consensus.

15 But I think you've done a marvelous job,
16 frankly, as compared to debates I've seen in other
17 parts of the country, and some times even the
18 world, so --.

19 In any event, the process Ralph laid out
20 is the process I was thinking of earlier on.

21 MS. PULLING: Can I just, Mr. Chairman,
22 ask a clarifying question?

23 COMMISSIONER BOYD: Process questions on
24 the table.

25 MS. PULLING: Yes. When you submit the

1 collective comments of your advisory group, in
2 time for the docket closing on August 19th, will
3 you or Susan be able to share with us in advance
4 the language you'll use to submit the comments?
5 In other words, will the language characterize the
6 process or the recommendations in any way?

7 COMMISSIONER BOYD: No, all I'm talking
8 about docketing is your input documents, your
9 stuff. Nothing from the CEC. What the CEC will
10 say won't be evident until the first draft IEPR
11 report comes out in early September.

12 MS. PULLING: I guess what I'm trying to
13 get at is the four subcommittee reports, you will
14 submit the four subcommittee reports, is that
15 correct?

16 COMMISSIONER BOYD:]Into the docket.

17 MS. PULLING: Into the docket. And so,
18 what I'm asking is, is there going to be a cover
19 letter or a explanatory memo that characterizes
20 the work of the group. That just helps us know
21 what level of signoff we need for various
22 documents.

23 COMMISSIONER BOYD: I was worried about
24 that level of signoff and the amount of time it
25 takes, so I was trying to be as general as

1 possible. Other than procedural remarks and
2 compliments to the Advisory Committee and maybe
3 setting a context for all of this, it's probably
4 not a bad idea, if I have license from all of you
5 to just put in a package and put something in the
6 docket about the same time.

7 MS. PULLING: I would just request that
8 if you do do that, maybe staff could circulate it
9 in advance.

10 COMMISSIONER BOYD: And I would share
11 that with you all ahead of time.

12 MS. PULLING: Thank you. That would be
13 very helpful.

14 MS. DUXBURY: If we're not all going to
15 sign off on each of these subcommittee reports
16 that we participated in, will you want the names
17 of who were on each subcommittee?

18 COMMISSIONER BOYD: Oh, it'll be on --
19 yeah, that'll go into the record. I mean, it's
20 more or less in the record anyway.

21 And secondly, I think the point was made
22 earlier that if anybody feels so compelled still,
23 that they have the right to file a minority
24 opinion that will be appended to their
25 subcommittee report.

1 In fact, in light of the new freeway on
2 ramp that has been designed in the state of
3 California, or rather an exit ramp for you all,
4 it's bigger than an exit ramp, one thought I had,
5 and it would only be with your permission and we
6 would talk about it when we exchange all these
7 papers in mid-August, is that once you all agree
8 on everything and we do reach the point where
9 we're formally docketing this, I was going to
10 suggest that the Advisory Committee also transmit
11 the whole package of material to the Secretary of
12 Cal EPA for inclusion in their processes, just
13 FYI, here's information, here's material for you
14 to use, it's the product of the stakeholder
15 process, it might give you a running head start in
16 some areas, etc., etc.

17 Now recognize that some of that will
18 just come back to some of us, who, what you see on
19 the list, responsibilities that some have.

20 What you haven't got here, as Eileen
21 Tutt talked about this morning, is the not public
22 list of wild brainstorming of other areas that do
23 involve more things that come back to multiple
24 state agencies including this one, but once we
25 start discussions of them you'll hear more about

1 them, but it would come back into this arena most
2 likely.

3 MS. CORY: Just to clarify, if you're
4 fine with your subcommittee's report but you might
5 have concerns about a point that was made in
6 somebody else's subcommittee report do you submit
7 your concern to that subcommittee and ask that it
8 be included as a minority view?

9 COMMISSIONER BOYD: That's probably an
10 approach, fine by me, let's assume -

11 MR. CAVANAGH: Can't we just append to
12 each report any additional statements that anyone
13 wishes to add?

14 COMMISSIONER BOYD: Right.

15 MR. CAVANAGH: And I would propose to
16 clarify them as additional views of, and that
17 person's name.

18 COMMISSIONER BOYD: Don't forget today,
19 we've still got to hear from "the public", whoever
20 they are.

21 MR. PARKHURST: What about with the CCAP
22 recommendations? What's the filing, the process
23 around those.

24 COMMISSIONER BOYD: Well, you've A, got
25 recommendations in various areas that this group

1 has been working with, and B, the Energy
2 Commission, who retained CCAP, has them at its
3 disposal to continue to pursue some of these
4 questions and issue, and to take into
5 consideration their input as we make our, as the
6 staff makes its recommendations and ultimately as
7 the CEC makes recommendations it's going to
8 include in its IEPR.

9 So their suggestions are still there on
10 the table as far as the CEC is concerned.

11 MR. PARKHURST: Do we have, we had a
12 number of presentations from them today. Will we
13 have a formal document from them, other than the
14 presentations, to comment on, and when roughly
15 will we see that?

16 COMMISSIONER BOYD: Good question.
17 Susan, should I put you on the spot? Or are you
18 just going to hand it off to Ned and put him on
19 the spot?

20 MS. BROWN: We agreed that we need to
21 finalize the work of CCAP in support of this
22 Committee, and publish it, make it available to
23 the Commission and any members of the Committee.
24 What we haven't agreed on is the timing of when
25 that was possible.

1 Unless you want to take it on the fly,
2 Ned, I think we need an offline discussion of
3 what's possible by when, with that August 19th
4 looming deadline in mind.

5 COMMISSIONER BOYD: This is all paid for
6 by taxpayer, ratepayer money, and it all goes to
7 the public arena, so you'll all be welcome to it.
8 We don't do anything we don't publish, I don't
9 think.

10 Okay, well, I think we just did the
11 feedback and discussion. We also did the
12 conclusions and next steps, but wedged in between
13 that is hearing from the public, and that might
14 change that a little bit. So I should throw it
15 open to people here in the room who might want to
16 make some comments, and anyone listening out there
17 who would like to make some kind of comment.

18 So first let me just go around the room
19 to see if there are folks here who would like to
20 make some comment. I see this lady's hand over
21 here, and some in the back of the room, so I'm
22 just going to start over here and work my way to
23 my right.

24 So if you'll just give your name and
25 identify your organization?

1 MS. DOUCETTE: Yes, my name is Diane
2 Doucette, and I work for Redefining Progress,
3 which is a public policy think tank that's been
4 working on the economics of clean energy policy
5 for over a decade.

6 And Josh, you had mentioned that you
7 didn't have vigorous analysis for a cap and trade
8 proposal, and I just wanted to let you know that
9 we have so much on this, and we're happy to share
10 with you.

11 In the fall we got a call from several
12 legislators that said they wanted to do some work
13 on climate change, and they asked us to put
14 together a couple of proposals for them. And we
15 did.

16 And the one that they seemed to like the
17 best was the cap and trade proposal. And we
18 shopped that around a bit with a bunch of
19 legislators, and they all said from a public
20 policy point of view this is the best possible
21 policy out there for cap and trade.

22 They said why don't you go shop it out
23 to the bigger community at home.

24 We went to several enviros and they said
25 yup, this is the best policy.

1 We talked to a few businesses, we got
2 mixed reactions, but we got some good positive
3 feedback on that.

4 We talked to labor groups, we talked to
5 interfaith groups.

6 And so we would love to share this
7 information with you. I'm not sure exactly how to
8 do that, if you want to do it via conference call,
9 it's a little late in the game, but we'd be happy
10 to do that.

11 And another thing that we have done
12 recently is put together a bunch of principles for
13 a cap and trade program, so it allows you -- not
14 to have to go through all the details, but it says
15 we want it to be environmentally effective, we
16 want it to be economically beneficial,
17 economically efficient, equitable for all
18 Californians, we don't want to penalize companies
19 that have already taken early actions.

20 So if you would like I could e-mail
21 those principles to you, and that's a way to get
22 started, if you don't want to go into all the
23 details. And Josh, I have your e-mail address,
24 and I have Peggy's, I could send that out to you?
25 Okay.

1 COMMISSIONER BOYD: Will you be making a
2 presentation tomorrow to the IEPR public hearing,
3 or --?

4 MS. DOUCETTE: I will be at the hearing
5 tomorrow. But we will be presenting to the
6 Governor's Task Force as well.

7 COMMISSIONER BOYD: Okay, and something,
8 I'm just reminded of something Eileen didn't say
9 this morning in describing the Climate Advisory
10 Team is that they also are assembling resources,
11 talent, to do economic analyses of measures as
12 well.

13 They've borrowed deeply from the Energy
14 Commission's folks and consultants and what have
15 you to do just that.

16 MR. MARGOLIS: Diane, did you say that,
17 when you circulated this proposal it was a cap and
18 trade proposal and it was concluded by the
19 legislators that it was the best policy proposal?
20 With respect to command and control, with respect
21 to voluntary programs, with respect to everything
22 else, or the specific cap and trade proposal that
23 you circulated was the best?

24 MS. DOUCETTE: The policy that we
25 submitted to them had cap and trade as an option,

1 and if they chose the option of cap and trade they
2 thought it was the best public policy to reduce
3 greenhouse gas emissions.

4 MR. MARGOLIS: So it wasn't the best cap
5 and trade proposal, it was just the --

6 MS. DOUCETTE: Right, they were looking
7 for the best public policy proposal to reduce
8 emissions.

9 MR. MARGOLIS: And the people on this
10 list, the legislators you were referring to, can
11 you characterize who they are?

12 MS. DOUCETTE: I can share that after
13 with you. Okay.

14 COMMISSIONER BOYD: Thank you. All
15 right, I've lost track, but this gentleman back
16 here.

17 MR. WASON: My name is Bill Wason, I'm
18 with an organization called Carbon Challenge. And
19 I wanted to talk about a couple of things just in
20 general and a couple of comments from a little
21 international perspective.

22 Carbon Challenge was involved in a bill
23 that involved carbon labeling on fuel and
24 lubricants this last session and somewhat this
25 session.

1 You might want to think about the idea
2 of incentivising people, particularly the fuel
3 sector seems to be working itself out. But the
4 lubricant sector you have a lot of room for, with
5 a label and with that refundable fee or whatever,
6 getting people to think about putting energy
7 efficient lubricants in their motor oil is
8 extremely effective way, cheap, all sorts of
9 benefits.

10 So, you might want to think about that,
11 because there re anti-friction treatments that get
12 six, eight percent fuel efficiency gains over the
13 baseline.

14 The main thing I wanted to mention is
15 that if you start looking -- this is sort of in
16 the power sector -- but if you start looking at,
17 before I jump from transportation, one point is
18 that ethanol is sort of a touchy word in this
19 state, but I think it would be wise to look at the
20 model of what has occurred in Brazil, and
21 recognize that they've made huge reductions in
22 their gasoline requirements as a result of both
23 adding additional amounts of ethanol to gasoline
24 and incentivising or pushing the car companies to
25 force flexible fuel vehicles on the market.

1 And those vehicles are just as cheap as
2 regular cars and they are 100 percent flexible
3 gasoline to ethanol. There are issues with CARB
4 with all of this, but when you balance that
5 against the cost of potentially much higher per
6 barrel costs of petroleum, it's extremely
7 important for you to think about more aggressive
8 policies than just saying we might get to ten
9 percent ethanol and gasoline.

10 So that's --

11 COMMISSIONER BOYD: This room is
12 resonating still from about three, four hours of
13 ethanol just last Friday, both the ARB and CEC
14 sitting here so. Just to say, the subject's been
15 well planted in the --.

16 MR. WASON: The only comment I'll make
17 on your cap and trade discussions is I think it's
18 important not to assume that you're going to
19 duplicate the European model. They were the first
20 ones out, they did things a certain way because of
21 the way things occur in Europe.

22 I think what you learned from that is
23 that no matter what they would still buy carbon
24 credits, even if the price went up to 25 euros a
25 ton. And I think the reason that carbon credits

1 are worth 25 euros a ton is because you could only
2 buy them within the restricted group of
3 participants.

4 And I think if you really want to
5 minimize the economic impact of any kind of a
6 carbon cap and trade you really have to look at
7 international sourcing for your carbon reductions.

8 And when you do that it opens up all
9 sorts of opportunities at a much, much lower cost
10 per carbon per ton. And I think you really need
11 to think about that.

12 Last comment is that most of the
13 multinationals in this globe have offices in
14 California, one way or another. There's a lot of
15 investment opportunity that occurs out of
16 California because there's a lot of people with a
17 lot of money.

18 I think one of your climate change
19 policies ought to be looking at how do you steer
20 major corporations to model their behavior in such
21 a way that it's acceptable to their shareholders,
22 that it optimizes climate reductions, that it's
23 clear corporate policy, and that they take
24 actions.

25 And I think if you analyze that, both in

1 terms of their own corporate activity, but also in
2 terms of how they interacted with their
3 shareholders, you could gain a lot from that.
4 Because there's a lot of movement within the
5 shareholder interest on the climate change side,
6 and I think that's something you could take
7 advantage of.

8 COMMISSIONER BOYD: Thank you. In the
9 back of the room, young lady, did you have your
10 hand up there?

11 MS. PASSERO: Michele Passero with
12 Pacific Forest Trust. Pacific Forest Trust is
13 based here in California, and we work on private
14 forest land issues, both in California and the
15 west coast region, and policy issues nationwide as
16 well as in California.

17 Just wanted to let you know that we do
18 support, and we're happy to see the
19 recommendations of the industry and agricultural
20 subcommittee and support these recommendations.

21 And also just to sort of reiterate that
22 a lot of work went in to the enforced protocols
23 that were developed pursuant to the climate
24 registry. And I think there's a lot of lessons
25 that could be learned for other sectors as well as

1 a result of that process.

2 That was a four year process, starting
3 with when the legislation actually went through
4 the California legislature, until it went through
5 the protocol development process. And we've gone
6 through the issues of developing baselines and how
7 to provide those methodologies for forest land
8 owners.

9 And certainly it could be applicable, at
10 least on a conceptual level, to other sectors as
11 well. Thank you.

12 COMMISSIONER BOYD: Thank you, Michelle.
13 Yeah, that was four years ago, and I've only been
14 here three and a half years, so the first six
15 months was when I was over there as Deputy
16 Secretary of Resources, so these things take a
17 long time.

18 Anyway, Mr. Wickizer, I believe you had
19 your hand up. Another old veteran of these
20 discussions.

21 MR. WICKIZER: Thank you, Commissioner
22 Boyd and panel. And I, like Michelle, would like
23 to commend the industry and forestry sector and
24 support their recommendations.

25 As well I would like to point to the

1 forest protocols. There's a few things that
2 Michelle pointed out that can be learned there.
3 And carbon accounting, when we delved in to it,
4 certainly was not simple.

5 It was made somewhat simpler for us in
6 the forestry sector in that a set of regulations,
7 state regulations, was chosen as the baseline. So
8 the management in forest baselines in California
9 is geared to the forest practice rules and
10 reproducible.

11 I don't know how that would fit in with
12 these other sectors, but it did fit in well with
13 the forestry aspect.

14 Just as a general comment, I mentioned
15 before that we in forestry are geared towards
16 natural resource protection and watershed
17 protection and many of the things Dr. Heald
18 mentioned.

19 We find that, in our review a very
20 strong relationship in the field of climate and
21 fire and energy. Certainly fire is a hazard to
22 the forest, as is climate, as southern California
23 has shown through the drought cycle and the great
24 amount of emissions that are coming from that
25 material that wasn't removed down there.

1 So I think that that relationship should
2 be considered very carefully, and also as an
3 additive, and co-benefit if you would, in the
4 consideration of biofuels or bioenergy and any
5 means, anything that you can utilize from the
6 forest and offset a commodity or a measure of
7 fossil fuels is an avoided emission. And thank
8 you.

9 COMMISSIONER BOYD: Yes sir. Oh, well,
10 then that gentleman I couldn't see from behind the
11 podium afterward. Go ahead.

12 MS. JONES: Russell Jones, American
13 Petroleum Institute. Having sat through this day
14 I have to congratulate you on the seriousness with
15 which you're approaching this issue.

16 I mentioned earlier that API has had a
17 voluntary program, it's been in effect for two and
18 a half years. And contrary to the way Ned Helme
19 described it, we prefer to view a voluntary
20 program as participation flexibility and Ned
21 described it as compliance flexibility but that
22 notwithstanding the small difference in words --.

23 Basically our program has three
24 elements. One is actions which focus on reducing
25 near-term GHG intensity, actions which focus on

1 advancing R&D on long-term ways to control
2 emissions, and the one I mentioned earlier,
3 estimating emissions.

4 Now I won't go into the programs in
5 depth, but looking back at how the companies have
6 responded in the two and a half years, to me the
7 most remarkable thing is the diversity of their
8 responses.

9 Some companies re investing in, you
10 know, CO2 geologic sequestration that enhances oil
11 and gas recovery; some companies are looking at
12 technology through various universities,
13 Princeton, MIT, Stanford University; some are
14 investing in natural gas pipelines in Africa to
15 get natural gas to the local markets.

16 But the key thing there to me is the
17 diversity response in both the types of things
18 that they're doing and the location of things that
19 they're doing.

20 And what to me the message for
21 California is that if you're going to try to
22 reduce GHG emissions you have to worry about the
23 potential for leakage that people have talked
24 about, but also the potential for forcing a
25 company who wants to do something right with

1 moving their resources to California and what
2 might be a high cost opportunity and away from a
3 region that might have a low cost opportunity,
4 like in Africa.

5 In terms of some of the other things
6 that are going on in our program, I think, just by
7 way of a pushback that we are getting, we are
8 getting a very clear message that estimating
9 emissions is expensive, it does cost the company's
10 money.

11 They are supporting the development of a
12 consistent way to estimate methodologies, so the
13 same methodology could be used in the EU trading
14 system, it could be used in California, it could
15 be used in Botswana in the CDM project.

16 The companies want one set of books,
17 they want to be able to do it once, not any state.
18 And I think there will be competitiveness issues
19 when people start looking more closely at state
20 refining.

21 One example of that is, when we were
22 collecting data for our refinery energy efficiency
23 pledge, our members have pledged to reduce energy,
24 improve the energy efficiency of their operations
25 by ten percent between 2002 and 2012.

1 They are making us follow the same type
2 of data security measures that we do for some of
3 the more, very sensitive market influencing
4 information. Basically, we're going to get that
5 information in, we're going to aggregate it, and
6 we're going to destroy the original company data.

7 So there is company confidentiality
8 concerns over, particularly I think refineries.
9 One reason I think that may be true is that, when
10 you look at the federal government, which also
11 secures and protects their confidentiality and
12 data, looks at, they have a financial reporting
13 system, and in there when you go through the line
14 items you realize that for refinery, if you look
15 at all the operating costs of a petroleum
16 refinery, excluding the raw materials cost, the
17 crude oil which they refine, energy costs count
18 for 40 percent of their operating cost.

19 Now, any company that can lower that a
20 lot, or can lower that a little bit, is making a
21 significant contribution either to its
22 competitiveness or to its shareholders, to the
23 bottom line.

24 So I think companies have been working
25 aggressively, particularly in their refining, to

1 reduce energy use, and that translates directly
2 into GHG emissions.

3 One other example of that, I don't have
4 recent data, but for unrelated purposes I was
5 looking at 1999 combined heat and power
6 information. And out of the 21 US refineries I
7 think something like 17 or 18 have CHP operations,
8 there's between 45 and 50 CHP operations in oil
9 and gas operations, particularly the heavy oil.

10 A lot of that, electricity is used on
11 site, but a lot of that is added to the California
12 grid.

13 But my point here is that CHP is about
14 as effective a technology as exists, and the oil
15 and gas industry is heavily using it already.

16 And a couple of things on inventory
17 issues. People have mentioned mandatory reporting
18 of inventories, I think one thing to keep in mind
19 that Ned's group has been grappling with, even if
20 you have an inventory number you don't have the
21 cost curves for reducing emissions.

22 And that's what matters in terms of
23 making the choices between the various options.
24 And that's difficult information to get to, no two
25 refineries were created equal, they have different

1 crude oils that they use, they make somewhat
2 different product slates, and they just have the
3 unique processes which they tend to keep very
4 proprietary.

5 So that's just a few comments. Thank
6 you.

7 MR. CAVANAGH: Mr. Chairman, for all of
8 those reasons, wouldn't the best way to proceed
9 with refineries if you were going to move to a cap
10 and trade is cap statewide emissions, let the
11 refineries trade, aggregate the data.

12 Is that what you would prefer if you
13 were going to --

14 MS. JONES: I think you have to think
15 very seriously about how that would work. One of
16 the competitiveness issues which I didn't mention
17 is you can cap statewide emissions, how high of a
18 price would it have to be on an emissions permit
19 to overwhelm the 40 percent of the operating cost
20 that is already in energy costs.

21 And you have to add to that
22 substantially in order to get them to alter their
23 behavior, because they are worried a lot about
24 energy costs originally.

25 Additionally, under the World Trade

1 Organization, I don't know how you can add that
2 refining cost to imported fuels. And therefore
3 you're opening up a competitive disadvantage for
4 California locating refineries, because the
5 refinery located offshore, you can't add that
6 carbon adder their operations.

7 And so I think you have to worry
8 seriously about competitiveness issues if you go
9 that route.

10 COMMISSIONER BOYD: Thank you. And then
11 over here.

12 MR. JOHNSON: Good afternoon, my name is
13 Ken Johnson, and I'm here today in my capacity as
14 a private citizen, I don't have any affiliation.

15 And what I would like to do is talk a
16 little bit about cap and trade, and to contrast it
17 with an alternative regulatory mechanism
18 represented by the Swedish nitrogen oxide program,
19 which would be more effective than cap and trade
20 at reducing greenhouse gas emissions.

21 So I'll be talking about nitrogen oxide
22 and about acid rain, but it should be clear how
23 the same parallels apply to greenhouse gases.

24 Cap and trade policies have their roots
25 in the US acid rain program, which has succeeded

1 in reducing sulphur dioxide emissions by about a
2 factor of two, and has done so at much less than
3 expected cost.

4 However, the acid rain program has not
5 actually solved the acid rain problem. Studies
6 indicate that emissions would have to be reduced
7 by an additional factor of four or five to support
8 ecosystem recovery.

9 Now that sounds like a lot, but the best
10 performing coal plants have sulphur dioxide
11 emissions something like eight times less than the
12 average and the worst are something like five
13 times higher than the average, so I think a four
14 to five factor is certainly within the realm of
15 technical feasibility.

16 Furthermore, the human health benefits
17 of sulfur dioxide reductions exceeds costs by at
18 least a factor of ten. So much higher abatement
19 levels would certainly be justified, just based on
20 the quantified health benefits alone, neglecting
21 the acid rain problem altogether.

22 Furthermore, compliance costs are about
23 five times lower than original expectations when
24 the program was enacted, so much higher abatement
25 levels would certainly be within the range of

1 political feasibility.

2 So solving the acid rain problem I think
3 is doable within the limits of technical
4 feasibility and economic cost acceptability but
5 the problem is the cap and trade mechanism used by
6 the acid rain program just isn't structured to do
7 it.

8 And there are two primary limitations
9 that limit the effectiveness of the acid rain
10 program. First of all, cap and trade does not
11 constrain costs, it instead focuses on
12 constraining emissions.

13 This would be advantageous if emission
14 caps were actually based on environment
15 requirements. However, the caps are based on a
16 political compromise premised on highly uncertain
17 and inflated cost projections and undervalued
18 benefits.

19 And as a result mandated caps are overly
20 cost conservative and environmentally inadequate.

21 The second limitation of cap and trade
22 is that it provides no incentive to reduce
23 aggregated emissions below the mandated cap level.
24 A company that reduces its emissions below its
25 compliance level can profit by selling emission

1 credits, but of course those credits have economic
2 value only because they allow the buyer to
3 increase emissions by an amount that neutralizes
4 the seller's over-compliance.

5 Thus emissions trading provides no
6 environmental benefit. It functions only to
7 minimize compliance costs and not to minimize
8 emissions.

9 One approach that's often considered to
10 remedy the deficiencies of cap and trade is to use
11 a so-called safety valve, which mitigates cost and
12 certainty by allowing emissions to rise above cap
13 levels if emission prices exceed some defined
14 threshold level.

15 But in this case the policy instrument
16 is not actually cap emissions and does not provide
17 environmental certainty, which is the primary
18 objective of cap and trade. The policy objective
19 could be redefined to accommodate the safety
20 valve, but a regulatory instrument should
21 generally be chosen to fit a predefined policy
22 objective, not vice versa.

23 The objective of cap and trade is to
24 achieve a define emissions level at minimum cost.
25 An alternative, more realistic and practical

1 policy objective, would be to achieve maximum
2 feasible emissions reduction within defined limits
3 of cost acceptability.

4 The first approach restrains emissions
5 and minimizes costs, whereas the second approach
6 constrains costs and minimizes emissions. Cap and
7 trade achieve the first objective, except if it
8 has a safety valve it doesn't achieve either one.

9 The second approach of constraining
10 costs and minimizing emissions within that
11 constraint is exemplified by the Swedish nitrogen
12 oxide program, which uses a kind of feebate type
13 regulatory instrument to motivate NOX emission
14 reduction from stationary combustion sources.

15 The program is purely incentive based
16 and is revenue neutral. It does not rely on
17 mandated emission limits. Instead it only
18 mandates emissions price that controls the level
19 of economic incentives.

20 It has nevertheless achieved NOX
21 reductions far exceeding those of the United
22 States. Between 1990, when the program was
23 enacted, and 1995, specific emissions from
24 regulated utilities fell by 60 percent, and in
25 2000 emissions from coal-fired plants in Sweden

1 were about four times less on a per megawatt hour
2 basis than typical US plants.

3 The regulation-induced increase in
4 electricity cost is estimated at just .04 cents
5 per kilowatt hour, indicating that a higher
6 emissions price and great emissions reduction
7 could be politically feasible.

8 The feebate approach has two principle
9 advantages over cap and trade. First it
10 constrains costs. Regulation-induced abatement
11 costs are limited by the emissions price, which is
12 set by mandate. This eliminates problems of cost
13 uncertainty and emissions price volatility, which
14 are the primary obstacles limiting cap and trade's
15 political acceptability.

16 The cost constraint could help create a
17 stable, predictable investment climate that would
18 be conducive to the development and
19 commercialization of low carbon energy
20 technologies.

21 The tradeoff to cost certainty is that
22 emissions are not constrained, as they are with
23 cap and trade. But in practice cap and trade
24 policies constrain emissions to levels that do not
25 come close to achieving environmental objectives,

1 so their supposed advantage of environmental
2 certainty is only theoretical.

3 The second advantage of the feebate
4 approach is that it's market incentives function
5 to minimize emissions. If a regulated firm
6 improves emissions performance it's profits
7 increase at the expense of it's competitors and
8 competitors are motivated to also improve their
9 performance to restore competitive balance.

10 By contrast, under cap and trade a
11 firm's improved emissions performance results in
12 counter balancing emissions increases from other
13 firms who purchase credits, so in that context
14 market incentives do not reduce aggregate
15 emissions.

16 In summary, the feebate approach could
17 help provide the kind of economic incentives and
18 stable investment climate required for transition
19 to a carbon neutral economy, and I would encourage
20 the Commission to at least identify this approach
21 as an option in your report.

22 COMMISSIONER BOYD: Thank you. I'm
23 actually intrigued by your feebate approach, and
24 I'm sure the staff will look at it. I'll only
25 make one comment, and it's not meant in a

1 derogatory sense, but somebody earlier today made
2 the comment that somebody in Europe said the US
3 prefers it's taxes hidden, and then people relate
4 feebates to taxes and away we go in this country.

5 And I've spent most of my working career
6 trying to explain to Europeans why we don't use
7 our tax system to incentivise things for the good,
8 and it took me years to finally come up with a
9 flippant quip about it's in our genes, it has
10 something to do with the Boston Tea Party.

11 But other than that I have no good
12 explanation from the difficulty we have in dealing
13 with economic tools and price measures. But we
14 will look at it, we've got the courage again to
15 talk about some of these things a little bit.

16 MR. JOHNSON: Yeah, just one comment I
17 want to make. Those kinds of issues you have with
18 political acceptability apply to the automotive
19 vehicle feebates, which have some complications
20 that you don't have with the power sector.

21 The power sector is actually a much
22 simpler application of feebates than automotive,
23 so you probably wouldn't have those sorts of
24 issues. In fact, in the Swedish program there's
25 really been very little political opposition,

1 that's been one of it's primary advantages.

2 COMMISSIONER BOYD: Thank you.

3 MR. JOHNSON: Thanks.

4 MR. BLUMBERG: Thank you. The hour's
5 late, I'll keep my remarks brief here. I wanted
6 to thank you, Commissioner Boyd, and all the
7 members of the Advisory Committee --

8 COMMISSIONER BOYD: Tell everybody who
9 you are.

10 MR. BLUMBERG: Oh yeah, I'm Louis
11 Blumberg, Director of Forest Policy for California
12 for The Nature Conservancy, and I've been
13 monitoring the work of your committee since
14 October and wanted to thank you all and commend
15 you for the hard work that you've all done to get
16 to this point.

17 The Nature Conservancy supports the
18 recommendations of the forestry subcommittee with
19 the industry and agriculture group. We appreciate
20 the work that the staff has done and that the
21 consultants have done to prepare the information
22 to make these recommendations.

23 Also, we support strongly that forests
24 be included in any cap and trade program. We
25 think that that's an important mechanism both to

1 protect forest lands as well as to reduce the
2 effects of global climate change.

3 And as other speakers have mentioned,
4 California has, as you well know, the forestry
5 protocols and the climate action registry. And we
6 think these tools put California at the front of
7 the pack of other states and other countries, and
8 urge that these tools be used to their fullest as
9 you move forward.

10 A couple areas I think that have come up
11 today that need to be fleshed out a little
12 further, either in the work of this Committee or
13 in what happens subsequently.

14 And the first is this notion of a
15 multiple benefits. It's come up in a lot of
16 different ways and it's well, I think it's very
17 compelling with the forests as well, in that the
18 actions that we can take to increase carbon
19 sequestration promote the health of the very
20 systems that are threatened by global climate
21 change.

22 So by reducing the risk of fire we can
23 build ecosystem resiliency and keep the forests
24 and the ecosystems the natural systems best
25 prepared to deal with the impacts of climate

1 change as they come.

2 And then finally I think this issue of
3 wildfire needs some more fleshing out. I think
4 Dr. Heald mentioned that a recent studies have
5 shown that the air emissions from wildfires exceed
6 those from all stationary sources around carbon,
7 and I think this augers well for continued
8 discussion as these debates go on about the role
9 of wildfire and the role of forest management in
10 reducing fire risks.

11 And finally I think that leads us back
12 to this issue of biomass that seems to cycle
13 through these debates about every two or three
14 years. And I think once again the time is right
15 to take this issue up as well because again, of
16 the multiple benefits that it does have.

17 So thank you again.

18 COMMISSIONER BOYD: Thank you, Louis,
19 good to see you. You suddenly reminded me of six
20 plus years ago when we started the Joint Agency
21 Climate Change Team, multiple benefits was
22 definitely on the agenda, biomass, watershed
23 management, benefits to the watershed from
24 forestry work.

25 So there are multiple benefits to

1 potentially look at. The tough thing historically
2 has been to get the economics to work, but --.

3 Now, there were hands over here. Yes
4 sir?

5 MR. AOKI: Good afternoon, Mr. Chairman,
6 and members of the Committee. My name is Rod
7 Aoki, and I'm here today representing the
8 Cogeneration Association of California and the
9 Energy Producers and Users Coalition. CAC and
10 EPUC represent cogenerators and combined heat and
11 power projects in the state of California.

12 These projects apply both thermal energy
13 to critical industrial processes as well as
14 electric energy both to onsite loads and to
15 California through the IOU's.

16 As many of you know, the cogeneration
17 process provides us energy using less total fuel
18 and producing less greenhouse gas emissions than
19 if the two streams of energy were produced
20 separately.

21 And first of all, CAC and EPUC would
22 like to begin, Mr. Chairman, by thanking this
23 Commission for recognizing the environmental
24 benefits of cogeneration through the IEPR process.

25 Most recently, the April 2005 assessment

1 of the California CHP market described CHP as "the
2 most energy efficient and cost-effective form of
3 distributed generation," and it's having, among
4 other benefits "environmental benefits both in the
5 reduction of criteria pollutants and emissions of
6 carbon dioxide that contribute to global warming."

7 In the June 2005 Commission staff paper
8 on global climate change it was stated that "the
9 use of combined heat and power from a single
10 combustion source promises to be an effective
11 strategy to reduce greenhouse gas emissions. Both
12 reports recognize that correct policy instruments,
13 however, are need to encourage continuing
14 operation and development of these beneficial
15 facilities."

16 The power sector subcommittee is
17 presently developing a reference case for your
18 consideration, and while the subcommittee is
19 working very diligently on the reference case, and
20 will have another meeting this coming Wednesday,
21 there are ways in which the reference case could
22 be modified to encourage CHP, and we'd like to
23 discuss one today.

24 Because the cogeneration process uses
25 one fuel source to produce both electricity and

1 thermal energy, the emissions from that process
2 must be properly allocated and credited between
3 the two energy streams.

4 At present, as we understand it, the
5 reference case assigns all of the GHG emissions
6 from the burning of natural gas to the electricity
7 produced by the cogenerator. If that cogenerator
8 ceased providing electricity the industrial
9 customer would still require thermal energy and
10 would likely install its own gas-fired boiler,
11 thereby producing most of the GHG emissions
12 mistakenly assigned to the electricity generation
13 function.

14 The reference case is to give the
15 Commission an accurate basis for evaluating the
16 effects of various energy strategies it must
17 allocate to the cogenerator only those emissions
18 associated with the production of electricity.

19 And this leads directly into some of the
20 discussion about the procurement case before the
21 CPUC and the \$8 per ton GHG adder that's being
22 used in the procurement process.

23 And basically if the electricity side
24 that is having to bid to get a contract to stay
25 online in the state is penalized with both sets of

1 the emissions it could render that particular
2 project not cost-effective, not eligible to win
3 the bid, and if the cogeneration doesn't have a
4 place to provide its power, as you know, then the
5 cogeneration operation simply doesn't work because
6 of the thermal tied to the electric.

7 So we look forward to working with the
8 subcommittee on this issue, and thank you very
9 much for your consideration today.

10 COMMISSIONER BOYD: Thank you.

11 MR. CAVANAGH: Mr. Chairman, I assume
12 you've made this point to the PUC, because that's
13 a crucial issue on accounting, I agree with you
14 completely. Are they --?

15 MR. AOKI: We have as well, we raised it
16 I believe on re-hearing.

17 MR. CAVANAGH: Okay, so it's still
18 before them?

19 MR. AOKI: It's still before them, but
20 we also wanted to submit it here for your
21 consideration. Thank you.

22 COMMISSIONER BOYD: Thank you. Good
23 point. Any other hands in the audience? Is there
24 anyone out there listening to this who'd like to
25 make a comment?

1 Nobody's listening to us, or you've
2 answered all their questions.

3 Okay, conclusions and next steps, it
4 says here. I kind of think we did that. I'll
5 throw the floor open to any comments folks want to
6 make, but first I want to finish where I started,
7 by thanking you all for your participation in this
8 effort this year.

9 This could well be the last meeting,
10 public meeting of this body. I won't totally
11 commit to that, but it could well be that the new
12 freeway on ramp that I mentioned is big and broad
13 and busy and may prove to be the locus of a lot of
14 other activity.

15 But the Integrated Energy Policy Report
16 still is going to cover the subject, and there's a
17 lot to talk about. And there are certain segments
18 of this subject that the Energy Commission, try as
19 it might, cannot get away from, such as the whole
20 power sector.

21 And frankly, any aspect of energy,
22 natural gas, electricity or transportation fuel,
23 you can't push the subject without climate change
24 poking out somewhere else in it. So we will be
25 partnering with multiple agencies down through

1 time as we debate energy security, energy
2 diversity, you can't not also talk about climate
3 change we've discovered.

4 As you heard today, as you've struggled
5 with the fact that you can't talk about anything
6 in this arena without cap and trade infecting the
7 discussion one way or another. I shouldn't have
8 said infect, but creeping in to the discussion,
9 so --.

10 I totally understood the cross-cutting
11 committee getting in to that arena, and you just
12 can't not talk about it, whether you're going to
13 endorse it eventually or not.

14 So, with that, next steps really is
15 we've set the deadline of the 19th of August to
16 kind of wrap up the subcommittee documents, and
17 we'll all be exchanging materials and information
18 between now and then. Let me look to Susan to see
19 if there's anything else needs to be said that
20 I've forgotten or that yo want to add, and then
21 anyone around the table here who wants to say
22 something.

23 MS. BROWN: I wanted to say two things.
24 Also, first to express my appreciation to all of
25 you for the work to date. I think it's, I think

1 we've moved this issue a long way in a short
2 period of time, frankly, given it's complexity.

3 And I would be remiss if I didn't again
4 thank Ned and Stacey and Matt and Greg and Gordon
5 Smith and the others in our consulting team who
6 have worked many, many hours I can assure you to
7 get us to this point.

8 I do want to also remind you all that we
9 do have a hearing tomorrow, as Commissioner Boyd
10 mentioned, on the same subject, to take a broader
11 view of climate change.

12 We'll be reviewing first with Secretary
13 Lloyd, his views on how the Governor's leadership
14 initiative will be implemented. I'm sure he'll
15 say some of the same things that Eileen mentioned,
16 but maybe on a broader scale.

17 We'll be reviewing the science with some
18 of our key scientists, Professor Haneman, Dan
19 Cayan, Lynn Price from Lawrence Berkeley Lab will
20 be here.

21 We have an industry panel in the
22 afternoon. Robert Parkhurst is part of it,
23 British Petroleum, other speakers from the
24 petroleum industry and other industry groups will
25 be present.

1 So we do have I think a very good
2 program if you should care to come back and spend
3 another eight hours with us in this very room.

4 And I also want to mention the Energy
5 Policy Report, to be continued.

6 And then lastly, I did want to announce
7 that on the 13th, which is the day after tomorrow,
8 not to give any rest for the weary, we are going
9 to convene a power sector working group meeting
10 across the way in Hearing Room B to once again
11 revisit the reference case for the power sector
12 model, which we feel is essential, to be able to
13 put some numbers and costs around the power sector
14 issues.

15 And we're hoping at a minimum those of
16 you on the power sector working group would
17 attend, and we would invite others to participate
18 as well.

19 So I wanted to make those few
20 announcements.

21 COMMISSIONER BOYD: You remind me that
22 one of the charges the Energy Commission carries,
23 from the new freeway ramp that we've entered, is
24 an industrial carbon policy. And so all the work
25 that the industrial, ag, forest, etc. committee

1 has done, we may see you all again in future
2 discussions, as well as all the discussions in the
3 power area.

4 So try as we might to let go of each
5 other, maybe the future is going to dictate that
6 we continue to have quite a bit of dialogue.

7 And one last comment, I too want to
8 thank Ned and his crew. I should have just
9 thanked him for all the work he's done on this,
10 but I'm not done with him, so he still has some
11 things to do with us. Yes, Nancy?

12 MS. SKINNER: This is kind of a process
13 question. If our work from this point on is
14 basically through the subcommittees, and I know it
15 primarily has been all along, then in effect the
16 report to the Commission will in effect be from
17 subcommittees, there won't really be a report from
18 the Committee as a whole.

19 And the reason I raise it is, we
20 obviously heard reports from both cross-cutting
21 and power sector, and the power sector committee,
22 if I understand correctly, removed any discussion
23 of a cap and trade because, partly trying to have
24 some consensus on the part of the committee.

25 Cross-cutting committee dealt with it,

1 but it was obviously a hard discussion, assuming
2 the way the report was presented.

3 But if I take -- and I don't know what
4 will occur in the subcommittees, but given that
5 I'm not on either, my sense is that what might
6 emerge would potentially be a strong
7 recommendation not against necessarily, but very
8 low emphasis for California only cap and trade.

9 And I don't know how the Committee as a
10 whole would feel if it were discussed as an entire
11 group, but there might be a different sense than
12 among just those people who participated in the
13 committee alone.

14 And the reason I raised it is, while I
15 certainly feel that a national would be
16 preferable, I think most of us realize that a
17 national cap and trade program is not any time
18 soon coming.

19 And if we look at the activities across
20 the US -- let's step back a minute. The way I
21 heard the concern about a California only cap and
22 trade was somehow that, you know, that we put,
23 we're small, there's a disadvantage, there's a
24 variety of factors that -- I mean, obviously it
25 would be better if it were done nationally.

1 But if you look at those places that are
2 considering cap and trade, California is larger,
3 and our electricity usage is larger, and our
4 economic -- I mean, if we're looking at it purely
5 from a scale, California is certainly a reasonable
6 scale for such a program.

7 And so I guess I just wanted to assert
8 some of that in the discussion, but the way, it
9 would appear that we're going now is that you'll
10 receive just subcommittee reports and then what
11 will be passed on to the Commission is solely the
12 opinions of those subcommittees on certain of
13 these questions.

14 MR. CAVANAGH: Mr. Chairman, if I could,
15 my understanding is a little bit different. First
16 of all, the subcommittee reports are to be
17 circulated to the entire Committee, and I am
18 expecting that if people have additional views
19 they will present them.

20 Second, in terms of a cap and trade for
21 California, my understanding of the discussion of
22 the power sector was that it was emphatically not
23 that we would say anything negative about it, we
24 would not express a view on a power sector only
25 cap and trade, which we are not. It did not start

1 out to do and did not do so.

2 What we would do, and the language in
3 the report does it, is make an approving handoff
4 of this issue, if you will, to the group now
5 charged with taking it on, which is the cap and
6 trade subgroup for the Climate Action Team for the
7 Governor.

8 And so I hope no one has construed any
9 of the discussion -- and I certainly didn't intend
10 it as in any way negative toward a statewide cap
11 and trade. I think the issue was usefully
12 ventilated today, but as far as I'm concerned we
13 have sent that issue forward to that group that's
14 charged by the Governor with addressing it.

15 MR. MARGOLIS: So, Ralph, other than
16 passing it off to the next group --

17 MR. CAVANAGH: With a number of useful
18 comments and suggestions.

19 MR. MARGOLIS: -- do you, Wendy, Mike,
20 Jan, Peggy, do you have any statements about where
21 a cap and trade program should be in California's
22 future?

23 MR. CAVANAGH: What you will have in the
24 power sector discussion, and I am reluctant to
25 reopen it with some of the members absent, there

1 will be language which basically encourages
2 consideration of a well -- and the language is in
3 there right now -- a well-designed multi-sector
4 cap and trade system.

5 And notes that the Governor has
6 established a task force for that purpose and
7 offers our assistance to it.

8 So it will say, Josh, what it says. The
9 language is there, it'll be recirculated. I view
10 it as positive but not --

11 MR. MARGOLIS: Devoid from that is
12 regional or national? Is it --?

13 MR. CAVANAGH: In the power sector
14 section that language wasn't there, and I'm not
15 proposing to put it in. I'm proposing to put in
16 what's there now.

17 There was obviously -- you have a much
18 broader discussion of cap and trade issues in the
19 cross-cutting group, and there certainly was, I
20 don't know, I hope you guys didn't strike all that
21 stuff out, there was what I personally thought was
22 a very helpful review of some of the issues
23 surrounding regional, large versus small scale,
24 some of the design issues.

25 COMMISSIONER BOYD: I guess, what I

1 heard was a reluctance on the part of many people
2 in this room, on individual committees and
3 overall, to just openly embrace cap and trade as
4 the way to go. But a desire, not a willingness,
5 to put forward the idea as worthy of exploration,
6 with varying degrees of enthusiasm throughout the
7 various areas.

8 So I didn't see it as totally rejected.
9 And I didn't see the California only reject that I
10 heard some express concerns, maybe we're not big
11 enough, maybe we aren't. I didn't hear that issue
12 resolved at all, personally, just reflecting on
13 the day.

14 So to me it's still, as an overall
15 subject as well as a subject within the various
16 sectors, still an option available to folks to
17 look at. Denise?

18 MS. MICHELSON: I think that Ned made a
19 good point in one of his presentations where he
20 mentioned that there's no silver bullet, and so I
21 think it's appropriate that, as we move forward
22 with our recommendations we're looking, and we are
23 looking, at a broad sweep of initiatives, whether
24 it be a market mechanism such as cap and trade as
25 an option, or technology development, or feebates.

1 And so, I would agree that cap and trade
2 is one of those options. It's an option, it's not
3 the only answer to address greenhouse gas
4 reductions.

5 COMMISSIONER BOYD: Yeah, I didn't hear
6 anything different there. I find it novel to
7 reflect back over the years, as one who was kind
8 of accused of dragging his feet on cap and trade
9 several years ago, and being criticized even in
10 this state for that fact.

11 And then who began to warm up to it the
12 last couple of years and getting damned for
13 seeming over-enthusiastic. So it's a real
14 lightning rod issue, and you can't win for losing
15 or you can't lose for winning. So it will
16 continue, obviously, to be debated significantly.

17 But it's certainly, based on what you
18 heard today, an option that people will very much
19 consider, sector by sector and what have you, just
20 because you can't seem to let go of it. Can't
21 shake it off, it's kind of there, so it will get
22 debated even more.

23 And I'm sure I'll be in the room with
24 many of you as it's discussed in the future in
25 different settings. Susan?

1 COMMISSIONER BOYD: I have one more
2 process request, and that is, before you all leave
3 today, I'd like to establish a time frame for
4 getting the revised statements from the
5 subcommittees if I may?

6 Because absent that, you'll get another
7 e-mail from me, and I know that you like those e-
8 mails so much, you'll probably want another one.

9 So what I would propose it that, by a
10 week from Friday, which is the 22nd of July, we
11 could get revised statements form the subcommittee
12 chairs back to me, and I'll circulate them to the
13 full Advisory Committee, and we can take it from
14 there.

15 Is that okay?

16 MR. MARGOLIS: So we'd have the
17 subcommittee sign off on it by July 22nd?

18 MS. BROWN: If that's possible.

19 MR. MARGOLIS: Yeah.

20 MS. BROWN: I'm just proposing that so
21 as not to lose the momentum of today's meeting.
22 Thank you.

23 COMMISSIONER BOYD: Any other comments
24 from the assembled group? Well, I want to thank
25 you all for your dedication to this subject, and

1 the many hours you've put in. I thank you very
2 much, and we stand adjourned.

3 (Thereupon, the workshop ended at 4:40 p.m.)
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